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ABSTRACT

The National Job Corps Study was undertaken to obtain the information needed to assess the Job Corps' success in providing employment assistance to disadvantaged youths aged 16 to 24 years. The study's findings related to outreach and admissions (OA) and center characteristics and practices that appear to promote positive programmatic experiences for Job Corps applicants and participants were examined by using agency records for a randomly selected sample of youth who were eligible to enroll in Job Corps. The following items had significant impacts on applicants' programmatic experiences: (1) OA counselors' outreach and screening practices; (2) OA counselors' knowledge and experience level; (3) center operator type, size, and location; and (4) the strength of centers' vocational and academic programs. The particular vocational areas offered by centers and the range of vocations offered did not significantly affect students' programmatic experiences. Limited residential living facilities were associated with shorter lengths of stay, but exceptionally good facilities did not appear to promote longer lengths of stay. (Twenty-two tables/figures are included. The following items are appended: the study methodology; results for vocational choices of Job Corps students; results for applicant typologies; and a

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description of the methods used to estimate impacts for different Job Corps program experiences.) (MN)

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National Job Corps Study: Job Corps Applicants' Programmatic Experiences

Final Report

September 14, 2000

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EXECUTIVE SUMMARY

Job Corps plays a central role in federal efforts to provide employment assistance to disadvantaged youths ages 16 to 24. The program's goal is to help these individuals become "more responsible, employable, and productive citizens" by providing them with comprehensive services that include basic education, vocational skills training, counseling, and residential support. Each year, Job Corps serves more than 60,000 new enrollees at a cost of more than $1 billion. The National Job Corps Study is expected to provide Congress and program managers with the information they need to assess how well Job Corps is attaining its goal.

This report is one of a series presenting findings from the study. It builds directly on the results of the process analysis study that described the basic Job Corps program model and identified variations in the way the basic model is implemented. It also supplements the descriptive findings of student programmatic experiences presented in the 30-month impact report. Specifically, in this report, we examine the outreach, admissions (OA) and center characteristics and practices that appear to promote positive programmatic experiences for Job Corps applicants, and for the students that enroll in the program. The programmatic experiences of interest are measured using agency records and include the likelihood of enrollment in Job Corps and, conditional on enrollment, whether the student attains a GED, completes vocational training and program length of stay. A secondary purpose of the report is to develop preliminary statistical models of various aspects of program participation that could be used in subsequent analyses of the effects of programmatic experiences on students' post-program labor market outcomes.

The results summarized below are based entirely on data for youth who were randomly selected for the program group and who were eligible to enroll in Job Corps. Because all of the comparisons are among program group members only, it is important to emphasize that the findings below do not represent program impacts, but merely reflect the differences in programmatic experiences of youth who were exposed to various OA or center practices. In addition, it is important for the reader to keep in mind that the results do not represent causal relationships. That is, the analysis addresses the effects of particular OA or center practices for contractors or centers that *chose* to adopt specific practices. However, the results cannot be used to address how a specific practice would work in other OA agencies or centers that chose to adopt other practices. Nevertheless, the analysis provides important suggestive findings about the success of particular program practices if they were to be adopted on a broader scale.

In the report, we illustrate the results of the statistical models of programmatic experiences for different typologies of OA agencies and centers. For example, to illustrate the results for OA agency characteristics and practices, we calculate the predicted probability of arrival and the probabilities of other programmatic experiences conditional on arrival, for a representative OA agency (evaluated at the characteristics of the representative center and applicant) and compare them with the predicted probabilities derived from other typologies of OA characteristics. The representative cases are not

based on the mean or median characteristics or practices and, as such, do not have a strictly statistical interpretation. Rather, the representative case reflects a set of specific characteristics and practices that when taken together yield a predicted value of the likelihood of the programmatic experience that is approximately equal to the actual value observed in the data. The cases considered are broadly representative of the OA agencies and centers that operate the Job Corps program. Because programmatic experiences and impacts appear to differ by age, we present results separately for three applicant age groups: 16-17, 18-19, and 20-24.

OUTREACH AND ADMISSIONS TYPOLOGIES

Outreach and admissions services are provided by three main types of contractors: (1) State Employment Security (ES) Agencies and other state and local agencies; (2) private organizations affiliated with a Job Corps center; and (3) private organizations not affiliated with a center. For the most part, we find that the type of OA contractor does not significantly affect the programmatic experiences of the students recruited, although students recruited by private organizations affiliated with Job Corps centers appear to be slightly more likely to enroll in the program than students recruited by other agencies. Other important findings include:

- ***The outreach and screening practices of OA counselors play a very significant role in an applicant's programmatic experiences.*** For all age groups, OA counselors who use aggressive screening practices achieve higher arrival rates among their eligible applicants. For the two youngest groups, counselors who follow passive outreach practices and effectively put the burden on the applicant to follow-through and enroll in Job Corps recruited students who were likely to remain in the program longer.

- ***OA counselor knowledge and experience level play a key role in an applicant's programmatic experiences.*** Uniformly across all age groups, applicants served by well-informed and experienced OA counselors are much more likely to have better programmatic experiences than applicants served by less experienced and less knowledgeable counselors.

CENTER TYPOLOGIES

The process analysis study identified several variations in the ways in which centers implement the Job Corps program model that could be related to applicants' programmatic experiences. We find that whether the center has an OA contract and the extent to which staff match students in race/gender composition do not seem to be related to student programmatic experiences. In addition, we thought that since Job Corps is a performance-driven system that we might find that students who attend higher ranking centers (using OMS performance ranking as the measure) would have more positive program experiences. We did not find this be the case. Other results presented in Chapter IV confirm the general nature of the findings obtained from the process analysis, including:

- ***Center operator type, size and location play an important role in students' programmatic experiences.*** For all age groups, students that attend small CCC centers

(that are primarily located in rural areas) are more likely to complete their vocational trade and more likely to stay on center for longer periods of time compared to students that attend other types of centers. This is consistent with the process analysis findings indicating that CCC centers are more focused on vocational training than other centers.

- ***The particular vocational areas a center offers and the range of vocations offered do not affect a student's programmatic experiences.*** For all age groups, there are very small or no differences in predicted programmatic experiences depending on the comprehensiveness of the range of vocations offered by a center. However, it is important to note that this result refers strictly to the set of trades that were offered at the time of the study, and does not necessarily hold for new vocational training program offerings.

- ***Students that attend centers with strong vocational and academic programs have much more positive programmatic experiences than students that attend centers with relatively weak programs***. In the process report, we found many differences across centers in the strength of their vocational programs, from the amount of OEP provided to students, to policies for assigning students to trades and switching among trades, as well as in the extent to which centers supplement the basic academic curriculum with other programs. For all age groups we consistently find that applicants to centers with strong vocational and academic programs have more positive programmatic experiences, and especially GED attainment and vocational completion than students served by other centers.

- ***Limited residential living facilities are associated with shorter lengths of stay, but exceptionally good facilities do not appear to promote longer lengths of stay.*** In the process report, we found that the quality of center residential facilities and recreation opportunities vary considerably. Here we find that limited residential facilities are associated with low student retention, but that extensive facilities do not seem to promote retention.

IMPLICATIONS

These results have potentially important implications for the Job Corps program. They indicate the importance of ensuring that up-to-date materials/information about centers and videos depicting life on center are available and used by OA counselors. They also emphasize the importance of providing training to OA counselors concerning screening and outreach strategies, as well as developing recruitment/retention strategies to reduce the high turnover of OA counselors.

The results concerning center practices emphasize the importance of strong vocational and academic programs, as well as the potential problems associated with limited residential living facilities.

I. INTRODUCTION

Job Corps plays a central role in federal efforts to provide employment assistance to disadvantaged youths ages 16 to 24. The program's goal is to help these individuals become "more responsible, employable, and productive citizens" by providing them with comprehensive services that include basic education, vocational skills training, counseling, and residential support. Each year, Job Corps serves more than 60,000 new enrollees at a cost of more than $1 billion.

The National Job Corps Study, funded by the U.S. Department of Labor (DOL), is expected to provide Congress and program managers with the information they need to assess how well Job Corps is attaining its goal.[1] The central feature of the study was the random assignment of all youths found eligible for Job Corps to either a program group or a control group. Program group members were permitted to enroll in Job Corps, and control group members were not (although they could enroll in other training or education programs). The research sample for the study consists of approximately 9,400 program group members and 6,000 control group members randomly selected from among nearly 81,000 eligible applicants nationwide. Sample intake occurred between November 1994 and February 1996.

This report presents findings on the outreach, admissions and center practices that appear to promote positive programmatic experiences for Job Corps applicants, and for the students that enroll in the program. We also present information on the applicant characteristics that are associated with better programmatic experiences. A secondary purpose of the report is to develop preliminary

[1]The study is being conducted by Mathematica Policy Research, Inc. (MPR) and its subcontractors, Battelle Memorial Institute and Decision Information Resources, Inc.

statistical models of program participation that can be used in subsequent analyses of the effects of programmatic experiences on students' post-program labor market outcomes.

This report builds on the analysis and findings presented in two earlier reports. First, it builds on the findings of the process study, described in Johnson et. al. (1999) National Job Corps Study: Report on the Process Analysis. That report described the Job Corps program model and how it was implemented at the time of the study. The process study concluded that Job Corps uses a well-defined program model, which is offered at all centers, with students generally receiving the same basic program services at each center. At the same time, however, the process analysis also identified important variations in program elements that could affect applicant programmatic experiences. In this report, we provide insights on the program features that appear to promote positive programmatic experiences.

Second, this report builds on the analysis and findings contained in the main report on short-term impacts (Schochet, Burghardt and Glazerman, 2000), National Job Corps Study: The Short-Term Impacts of Job Corps on Participants' Employment and Related Outcomes. That report included descriptive information on the education and training experiences of the program group and of the control group based on self-reported information. It also provided detailed information on the impacts of Job Corps on exposure to education and training, as well as impacts on post-program labor market and other outcomes based on differences between the program group and the control group. In this report, we provide information on programmatic experiences based on official agency records.

This report examines the programmatic experiences of program group applicants and attempts to identify OA and center practices that promote positive experiences for youth who apply and enroll in Job Corps. For example, we compare the experiences of representative youth in the program group who were recruited and screened by an OA contractor that followed a certain set of practices with the

experiences of otherwise similar youth in the program group who were recruited and screened by an OA contractor that followed different practices. We also examine the programmatic experiences of various program group youth exposed to other OA practices, as well as to different center characteristics and practices. Because programmatic experiences and impacts appear to differ by age, we present results separately for three applicant age groups: 16-17, 18-19, and 20-24.

In interpreting the results presented in this report, as well as in understanding how these results fit in with earlier reports, it is important to keep in mind the nature of the comparisons being made and the limitations of the analysis. First, the results presented in this report reflect comparisons of programmatic experiences among program group members only. As such, comparative statements indicating that certain types of applicants or students have more positive programmatic experiences than a different group has nothing to say about the relative impacts of the program for those groups, as such conclusions would require information about control group experiences, which are not included in this report. Second, because the results concerning OA and center practices rely on statistical models, it is difficult to conclude that these findings represent causal relationships. That is, the analysis addresses the effects of particular OA or center practices for contractors or centers that *chose* to adopt the specific practice. However, the results cannot be used to address how that practice would work in other OA agencies or centers that chose to adopt other practices. Nevertheless, the analysis provides important suggestive findings about the success of particular program practices if they were to be adopted on a broader scale.

In the remainder of this chapter, we provide additional background information concerning the Job Corps program, focusing on the key roles that outreach and admissions agencies and centers play. We then discuss the goals of this analysis and provide additional details concerning the specific research

questions that we address in this report and the data sources that underlie the analysis. The chapter concludes with a description of the organization of the report.

A. OVERVIEW OF JOB CORPS

The Job Corps program, established by the Economic Opportunity Act of 1964, at the time of the study operates under provisions of the Job Training Partnership Act (JTPA) of 1982.[2] The operational structure of Job Corps is complex, with multiple levels of administrative accountability, several distinct program components, and numerous contractors and subcontractors. DOL administers Job Corps through a national office and nine regional offices. The national office establishes policy and requirements, develops curricula, and oversees major program initiatives. The regional offices procure and administer contracts and perform oversight activities, such as reviews of center performance.

Through its regional offices, DOL uses a competitive bidding process to contract for operations of the three main program elements: recruiting and screening of new students, center operations, and placement of students into jobs and other educational opportunities after they leave the program. At the time of the study, 80 centers were operated under such contracts. In addition, the U.S. Departments of Agriculture and of the Interior operated 30 centers, called Civilian Conservation Centers (CCCs), under interagency agreements with DOL.[3] Next, we briefly outline the roles of the three main program elements.

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[2] As of July 2000, Job Corps operates under provisions of the Workforce Investment Act of 1998.
[3] Currently, 91 contract centers and 28 CCCs provide Job Corps training.

1. Outreach and Admissions

Recruitment and screening for Job Corps are conducted by outreach and admissions (OA) agencies, which include private nonprofit firms, private for-profit firms, state employment agencies, and Job Corps centers. These agencies provide information to the public through outreach activities (for example, by placing advertisements and making presentations at schools), screen youth to ensure that they meet the eligibility criteria, assign eligible youth to centers (when the regional office delegates this function), and arrange for their transportation to centers.

The primary purpose of the outreach and admissions component of Job Corps is to ensure a steady flow of young people who are eligible for and can benefit from the program. Operating the program at near capacity is important for taking full advantage of the resources devoted to the program. Short stays in the program are viewed as wasteful because the participants derive little benefit if they leave home to attend but then do not complete the program. In this context, the twin challenges for the outreach and admissions system are (1) ensuring that qualified candidates are ready to enroll when slots become available, and (2) ensuring that these candidates fully understand what is expected of them and what life on center will be like, so as to avoid disappointment and early program termination. Sometimes tension exists between these two objectives.

Outreach and admissions involves several related activities. Outreach makes young people aware of the opportunities Job Corps offers and gives potentially interested persons the information on which to base a decision to enroll. Screening for eligibility entails determining whether the numerous eligibility criteria are met. The eligibility criteria include readily verifiable factors (such as age, income, and citizenship), factors requiring the exercise of judgement (need for removal from the home, and capacity to benefit from the program), and factors that may require review by professionally qualified third parties (evidence of serious

health or behavioral problems). After they are determined eligible, students are assigned to enroll at a specific center on a particular date. In this final phase of OA counseling, the outreach and admissions system prepares candidates for enrollment, arranges transportation, and sees the student off.

Several types of organizations share responsibility for outreach and admissions, including Job Corps regional offices, outreach and admissions agencies, and Job Corps centers. Regional offices are responsible for contracting with agencies to perform outreach and admissions work. They are also responsible for determining eligibility and assigning students to centers, although most regional offices delegate some or all of these decisions to OA agencies and centers. Outreach and Admissions agencies play a pivotal role in Job Corps, because they generally are the first contact with the program for youths and their families. As part of their outreach activities, OA agencies communicate to potentially eligible youths, as well as to other individuals and organizations who can identify and refer potentially eligible youths, about the availability of the Job Corps and its opportunities. OA agencies must conduct outreach by using activities that are appropriate for their needs (for example, flyers, billboards, center tours, off-center presentations, and broadcast outlets), and by developing liaisons and working relationships with relevant community organizations (for example, schools, court officers, employment services, and welfare agencies).

OA contractors are responsible for determining whether a youth who has expressed interest in and applied to Job Corps is eligible for the program. The information used to determine eligibility is collected directly from the applicant (over the telephone or face-to-face) by an OA counselor, using an agency-developed pre-application form or the Job Corps ETA-652 application form.[4] The screener must also obtain any additional information from appropriate authorities needed to determine an applicant's eligibility. If a candidate has a serious health problem or evidence of a behavioral problem, the regional office provides for a review of the case to ensure that eligibility rules are applied fairly and consistently, and that persons who could benefit are not denied admission.

The OA contractor is also responsible for notifying eligible applicants of their assignment to a center, and for arranging for their departure. Often, an OA counselor will contact a youth periodically, between the time eligibility is determined and a center assignment is made, to determine whether he or she continues to be interested in Job Corps. After a youth has been assigned to a center, the OA counselor contacts the applicant to determine whether he or she will accept the assignment, and to arrange travel and a departure date. At the beginning of this assignment interview, the OA counselor also checks for changes in the youth's health and emotional or behavioral condition, including recent arrests. The OA counselor then briefs the youth about the center, describes the programs' requirements and expectations, and makes a final check on eligibility.

The OA counselor will brief youths who decide to participate on travel arrangements; advise about baggage, clothing, and documentation; and warn about the consequences of bringing drugs, alcohol, or weapons to the center. The OA counselor will also inform youths that a physical examination, which will

[4]Currently, application processing is automated; information is entered to a computer and transferred to SPAMIS if the student enrolls. At the time of the study a paper-based system was used.

include an HIV test, will be required after arrival on-center. If a youth is on probation or parole, the OA counselor must notify the appropriate probation or parole officer. Finally, the OA counselor makes all departure arrangements, including escorting or providing an escort for youths to the initial transportation site and providing all travel and meal tickets required for the trip to the center. In addition, some OA counselors maintain contact with youths after they have arrived on-center and throughout their Job Corps experiences. Center staff are also often involved in the center assignment decision, and staff at most centers make pre-arrival calls to students assigned to the centers.

2. Center Operations

Centers are the cornerstone of Job Corps as they provide a comprehensive and intensive set of program services. The major services provided by centers include basic education, vocational training, residential living (including training in social skills), health care and education, counseling, and job placement assistance. Services in each of these components are tailored to meet the needs of each student.

Education. The goal of the education component is to enable students to learn as fast as their individual abilities permit. Education programs in Job Corps are individualized and self-paced and operate on an open-entry and open-exit basis. The programs include remedial education (emphasizing reading and mathematics), world of work (including consumer education), driver education, home and family living, health education, classes designed for those whose primary language is not English, and a General Educational Development (GED) program of high school equivalency for students who are academically qualified. In addition, about one-fourth of the centers can grant state-recognized high school diplomas.

Vocational Training. As with the education component, the vocational training programs individualized, self-paced, and operate on an open-entry and open-exit basis. Each Job Corps center offers training in several vocations, typically including business and clerical occupations, health occupations, construction, culinary arts, and building and apartment maintenance. Instruction is provided by staff with occupational experience that are hired by the center, as well as by national labor and business organizations under national training contracts at many centers.

Residential Living. Residential living is the component that distinguishes Job Corps from most other publicly funded employment and training programs. From its inception in 1964, residential living has been considered a key element of the program because most students come from disadvantaged environments and it is believed they require new and more supportive surroundings to derive the maximum benefits from education and vocational training. A key part of residential living consists of formal social skills training that all students must participate in, including nonresidential students. The residential living component also includes meals, dormitory life, entertainment, sports and recreation, center government, and other related activities. Historically, regulations had limited the number of nonresidential students to 10 percent, but JTPA amendments raised that limit to 20 percent in July 1993.

Health Care and Education. Job Corps centers also provide comprehensive health services to both residential and nonresidential students. Services include medical examinations and treatment; biochemical tests for drug use, sexually transmitted diseases, and pregnancy; immunizations; dental examinations and treatment; counseling for emotional and other mental health problems; and instruction in basic hygiene, preventive medicine, and self-care.

Counseling and Other Ancillary Services. Job Corps centers offer students a range of other supportive services including providing counselors and residential advisers. These staff help students plan their educational and vocational curricula, offer motivation, and create a supportive environment. Support services are also provided during recruitment, placement, and the transition to regular life and jobs.

3. Placement

The final step in the Job Corps program is placement. This component of the program helps students find jobs in training-related occupations with prospects for long-term employment and advancement. Placement contractors may be state employment offices or private contractors, and sometimes the centers themselves perform placement activities. Placement agencies help students find jobs by providing assistance with interviewing and resume writing and services for job development and referral. They are also responsible for distributing the readjustment allowance -- a stipend students receive after leaving Job Corps.

B. OBJECTIVES

This report presents the results of statistical models designed to improve our understanding of the programmatic factors that affect the experiences of youths recruited for Job Corps. The underlying objectives of the report incorporate both practical and methodological considerations. First, from a practical/policy perspective, it is important to better understand the outreach, admissions and center characteristics and practices that appear to promote positive programmatic experiences for Job Corps applicants and for the students who enroll in the program. To meet this objective, the statistical models we estimate are used to provide insights regarding hypotheses developed from the process analysis

study concerning the relationship between programmatic experiences and OA and center characteristics and practices. Below we provide additional information concerning the different hypotheses that we explore in the analysis.

The statistical models estimated here also serve a second, methodological objective. Specifically, the Department of Labor and the Office of Job Corps are interested in understanding the impacts of specific programmatic experiences on post-program labor market outcomes. Developing reliable estimates of such impacts, however, presents a formidable challenge because it requires an extensive understanding of the processes determining the program experiences and accomplishments of individuals, as well as the processes that determine these individuals' labor market and other related outcomes. Specifically, to answer this question, analysts must separate out the effects of the factors that determine which individuals have a particular set of programmatic experiences (e.g., vocational training program, vocational completion status, GED attainment status, length of stay) from the effects of these experiences on outcomes. For this report, the statistical models used to meet the first objective described above also serve as the preliminary models of program participation that are used in subsequent analyses of the impacts of programmatic experiences on students' post-program labor market outcomes. In Appendix D, we report selected results from a preliminary exploratory analyses of whether the impacts of Job Corps on post-program weekly earnings differ for various program-defined subgroups using interview data for the first 30 months after application.

1. Hypotheses Concerning OA Characteristics

OA Counselor Outreach and Screening Practices. In the process report we found that although OA counselors on average devote considerable time to outreach activities, some counselors follow a more passive approach to recruiting and, for the most part, essentially require interested youth

to contact them. Although such an approach may produce fewer applicants and make it more difficult for counselors to meet their arrival goals, such a process also results in a more committed pool of youth that make it to the application stage. Based on these results, we hypothesize that OA counselors that follow a passive approach to outreach will recruit youth who are more committed to Job Corps and as such, more likely to enroll and have better programmatic experiences, than applicants recruited by OA counselors that follow an aggressive outreach strategy.

The process analysis also documented that most OA counselors primarily screen into the program youth that meet the "traditional," easily documentable eligibility criteria related to age, U.S. citizenship, income and so forth; relatively few youth that are otherwise eligible are found ineligible by OA counselors for other criteria related to capability and aspirations to participate. Thus, we hypothesize that OA counselors that follow aggressive screening practices (e.g., counselor has 30-day stay goal, assess attitudes and goals, conducts home visits, strongly encourages enrollment) are more likely to identify youth that can benefit from the program and achieve more positive programmatic experiences.

OA Counselor Experience and Knowledge. In the process report we found that OA counselors had limited job tenure and limited firsthand knowledge of the centers for which they recruit. Moreover, center staff reported that this high turnover and lack of knowledge led to many students arriving on center without a good idea of what to expect and what the specific center offers. Thus, we hypothesize that applicants recruited by OA counselors that have less experience and less knowledge about the program are likely to stay shorter periods in Job Corps and have less positive programmatic experiences than applicants served by OA counselors with more experience and program knowledge.

2. Hypotheses Concerning Center Characteristics

Center Operator Type, Size and Location. In the process analysis we found that CCC centers are more focused on vocational training than other centers. Thus, we hypothesize that students who attend small CCC centers will have higher vocational completion rates than the representative center.

Range of Vocational Offerings. In the process report we found that the range of vocational offerings, and the extent to which the training programs offered are "in demand," varies considerably across centers. We hypothesize that centers that offer a wider range of vocational programs, as well as trades that are more in demand, are more likely to produce positive programmatic experiences for students.

Strength of Vocational and Academic Program. In the process report, we found many differences across centers in the strength of their vocational programs, in terms of the amount of Occupational Education Program (OEP) provided, and policies for assigning students to trades and switching among trades. Also, although all centers offer the standard Job Corps academic program, some centers supplement the basic curriculum with other academic programs that provide additional services to youth. Thus, we hypothesize that centers with stronger vocational and academic programs (e.g., more time spent by student in OEP to decide which trades to select, moving students quickly into their vocational trades, pre-college classes available, and academic instructor on Progress Performance Evaluation Panel) are more likely to produce positive programmatic experiences for students.

Quality of Residential Living Facilities. In the process report, we found that the quality of center facilities varies considerably. This was particularly true for residential living facilities, which is likely to significantly affect program length of stay. Thus, we hypothesize that students who attend centers with facilities that provide greater student privacy will stay longer and have better program

experiences than students who attend centers with less privacy. In addition, we found that recreation is an important part of residential living and hypothesize that students who attend centers that provide more recreational opportunities will experience longer lengths of stay and better program experiences than students who enroll in centers with limited recreational opportunities.

Degree of Student/Staff "Match". Students are more likely to find positive role models and mentors in centers where the backgrounds of the students match the backgrounds of the staff. In the process report we found that centers differ appreciably in the extent to which the characteristics of their staff (e.g., race/ethnicity, gender) match the characteristics of their students. We hypothesize that students who attend centers in which the racial and gender backgrounds of the staff match the backgrounds of the students will have more positive experiences than students who attend centers that are not as well matched.

OMS Center Performance Rankings. Job Corps is a performance-driven system, and includes a number of program outcomes in its Outcome Measurement System. We hypothesize that students who attend higher-ranked centers are more likely to obtain positive programmatic experiences than students who attend lower-ranked centers.

C. DATA SOURCES FOR ANALYSIS

Our analysis of the factors that affect programmatic experiences draws on multiple data sources. Student demographic (and other) characteristics at application and programmatic experiences were obtained from the Job Corps Student Pay and Allotment Management Information System (SPAMIS). Additional applicant personal background characteristics were obtained from the baseline survey. We also used Bureau of Labor Statistics data to construct county-level measures of the unemployment rate

and average annual earnings that were linked to the applicant's address at the time of application to Job Corps.

Two surveys conducted as part of the process analysis also contributed important information to our analysis. This includes a telephone survey of a large sample of OA counselors in all OA agency offices nationwide that were operating at the time of sample intake for the study. This survey obtained information on OA counselor characteristics and OA practices that were then linked to specific sample members based on the OA office that processed his or her Job Corps application. We also conducted a mail survey of all Job Corps centers that were in operation at the time of sample intake. This survey obtained detailed information on center characteristics and center operational practices that could affect students' programmatic experiences, which were linked to the center the student attended. Additional information on these two surveys can be found in Johnson et al. (1999).

D. OVERVIEW OF THE REPORT

The remainder of this report is organized as follows. In Chapter II, we overview the approach used to examine factors that are related to applicants' programmatic experiences. We also present overall findings for the major programmatic experiences of interest, including whether applicants arrive on center and, conditional on arrival, whether students complete their vocational training, attain a GED, and length of stay in Job Corps. To focus attention on the policy variables that are of most interest, the results in the next two chapters are organized not by programmatic experiences but by the different factors that shape those experiences. Specifically, in Chapter III, we present the results of how certain characteristics of outreach and admissions counselors and their practices are related to Job Corps programmatic experiences. Chapter IV provides information on the role of center characteristics and

practices in programmatic experiences. Finally, Chapter V summarizes our findings and discusses implications for program operations.

The report also includes four appendices. Appendix A provides additional details concerning the statistical models underlying the results presented in Chapters III and IV. Appendix B summarizes the factors that are related to the choices Job Corps applicants make regarding the vocational area where they receive the most training. Appendix C presents findings illustrating the effects of applicant personal characteristics on selected programmatic experiences. Appendix D presents some exploratory results from statistical models designed to estimate the extent to which program impacts differ for applicants with different programmatic experiences.

II. OVERALL RESULTS

A. INTRODUCTION

In this chapter we describe the general approach we use to examine the OA and center characteristics and practices that are associated with positive programmatic experiences and present our overall results. We estimate models in four general areas of programmatic experiences: (1) enrollment (arrival on center); (2) GED attainment; (3) vocational training; and (4) length of stay. We develop statistical models that focus on these programmatic experiences because of their policy interest and because they represent the broad categories of experiences for which the subsequent component impact analysis will attempt to estimate program impacts. The details of the statistical approach are provided in Appendix A and B.

We begin by describing the applicant characteristics, OA counselor practices and characteristics and center characteristics used to illustrate the results. Then, for each of the programmatic experiences of interest, we present the results of the statistical models by age, gender and by the student's likely residential status for these typical or representative characteristics. The chapter concludes with a summary of the main findings that broadly apply across all age groups.

B. REPRESENTATIVE CASES

The statistical models used to characterize the programmatic experiences of Job Corps applicants were estimated separately for three applicant age groups: 16-17 year olds, 18-19 year olds, and 20-24

year olds.[5] To evaluate the implications of these statistical models, we calculate the predicted probabilities of arrival on center for a number of representative types of applicants, OA agencies and Job Corps centers. Among those who enroll in Job Corps, we calculate the conditional predicted probabilities of GED attainment, vocational completion, and length of stay for the representative Job Corps student. The cases considered here are broadly representative of the youth that apply to Job Corps and they typify the OA agencies and centers that operate the Job Corps program.

In this section, we define the representative cases for applicants, OA agencies and Job Corps centers that we use to illustrate the results of the statistical models. Exhibit 2-1 summarizes the set of assumptions that define the representative student characteristics for each of the three age groups. As shown, the representative characteristics are selected to reflect the primary differences in education and employment backgrounds among applicants of different ages. For example, the representative youth aged 16-17 at application is assumed to have been in school for a significant part of the prior year, have only completed 9th grade, and to have relatively little work experience (i.e., worked 2 months last year with total earnings of at least $500). In contrast, the representative youth for the two older applicant groups is assumed to have more work experience but less recent participation in education programs. More specifically, we assume that applicants aged 18-19 and aged 20-24 have completed 11th grade and have worked 6 months in the last year, with earnings of at least $3,000. The one difference in the representative case between the two older age groups is that youth aged 20-24 are assumed to not have been enrolled in school in the last year, whereas the representative applicant aged 18-19 is assumed to have been in school for 3 months during the last year.

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[5]The models are estimated separately by age because results from Schochet, Burghardt and Glazerman (December 1999) indicate that the impacts of Job Corps on participants' post-program employment and earnings

Exhibit 2-1
Summary of Representative Case for Applicant Characteristics, by Age Group

Characteristics	16-17 Year Olds	18-19 Year Olds	20-24 Year Olds
Personal background	Age 16 Black Native English speaker In good health	Age 18 Black Native English speaker In good health	Age 21 Black Native English speaker In good health
Background experiences	Family receiving welfare No criminal/drug history Not working at application Worked 2 months in last year Earnings of $500 last year Completed 9th Grade Enrolled in school for 9 months last year Does not live with a spouse No children	Family receiving welfare No criminal/drug history Not working at application Worked 6 months in last year Earnings of $3,000 last year Completed 11th Grade Enrolled in school for 3 months last year Does not live with a spouse No children	Family receiving welfare No criminal/drug history Not working at application Worked 6 months in last year Earnings of $3,000 last year Completed 11th Grade Not enrolled in school in last year Does not live with a spouse No children
Knowledge and expectations of program	Knows someone who attends/attended Job Corps Believes Job Corps will help with social skills, self-control, math and reading skills	Knows someone who attends/attended Job Corps Believes Job Corps will help with social skills, self-control, math and reading skills	Knows someone who attends/attended Job Corps Believes Job Corps will help with social skills, self-control, math and reading skills
Geographic	Region 4 Lives in a Metropolitan Statistical Area Lives 25 miles from likely center	Region 4 Lives in a Metropolitan Statistical Area Lives 25 miles from likely center	Region 4 Lives in a Metropolitan Statistical Area Lives 25 miles from likely center

As indicated in Exhibit 2-1, the representative case for other characteristics that do not typically vary significantly by age are defined similarly for all age groups. For example, we assume the representative case for each of the age groups does not have any criminal or drug history, is

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outcomes differ by age.

in good health, and has similar knowledge and expectations of the program.

Exhibit 2-2
Summary of Representative Case for Outreach and Admissions Counselor Characteristics and Practices

Characteristics	Description
OA contractor type	Works for an OA contractor affiliated with a Job Corps Center
OA screening practices	Counselor encouraged applicant to go to Job Corps Counselor believed applicant was very likely to enroll Applicant told to expect to wait between 4 to 8 weeks before he/she could enroll at a center Applicant told to expect to stay in Job Corps for 12 months Applicant told he/she can leave Job Corps center after 60 days to visit home Attempts to contact no-shows Does not have a goal for number of students who stay at least 30 days Has a video for 25-50% of the centers he/she recruits students for Does not make center assignments Does not assess students in terms of experience or attitudes/goals Does not make visits to applicant's home
OA outreach practices	Has a target goal for number of applicants that enroll Applicant first saw counselor in Job Corps office Applicant spent 1-2 hours with counselor
OA counselor experience	CCC/Contractor type matched likely center Has worked as an OA counselor for 2 years

In Exhibit 2-2, we describe the representative case for OA counselor characteristics and practices. As shown, we organize these factors into four categories: OA contractor type, OA screening practices, OA outreach practices, and OA counselor experience. The representative case reflects the relatively short time (1-2 hours) that OA counselors typically spend with prospective students, as well as the relatively high job turnover of OA counselors (only 2 years work experience), and the limited amount of information available to the counselor about specific centers (e.g., has video for less than one-half of the

centers for which he/she recruits students). The representative case also reflects relatively limited OA outreach efforts (e.g., applicant first saw counselor in OA office), and the limited active applicant screening that is performed (e.g., counselor does not conduct experience or attitude/goal assessments of students). Other specific assumptions about OA counselor characteristics and practices that define the representative case are described in Exhibit 2-2.

In Exhibit 2-3, we define the center characteristics included in the representative case. These center characteristics are grouped into several categories: broad center characteristics, pre-arrival contact and intake frequency, center facilities, OEP and vocational assignment practices, academics and class schedules, PPEP panels, student body and staff characteristics and vocational program area offerings. As this exhibit indicates, the representative center case assumes a medium-sized center (226-495 student slots) of average measured performance that is operated by a private contractor and receives new student input on a weekly basis. The representative center case is assumed to offer the most common Job Corps vocational training programs (with student preferences guiding the trade selection and with no restrictions on changing trades) and the standard Job Corps academic program is assumed, with no pre-college classes offered. Other specifics concerning the representative case for Job Corps centers are detailed in Exhibit 2-3.

C. RESULTS

In this section we present the overall findings for the major programmatic experiences for the three age groups described above. For each of the age groups, we present overall results for

Exhibit 2-3
Summary of Representative Case for Center Characteristics

Characteristics	Description
Broad center characteristics	Operated by a private contractor Medium sized center with 226-495 students Located in a city with a population of 50,000 Average measured performance Center holds a contract for placement services Does not hold an Outreach and Admissions contract
Pre-arrival contact and intake frequency	Students are warned about possible vocational waiting list New student intake on weekly basis
Center facilities	New arrivals are placed in dorm rooms based on space availability only and not in rooms designated for new arrivals Dorm rooms have average number of beds per-room Center has athletic field on grounds
OEP and vocational assignment	New students spend 5 to 11 hours in OEP Student preference guides trade selection Students placed in second choice trade if first choice is full Vocational trade classes begin 2 - 4 weeks after arrival 10 - 20 % of available trades have waiting list for enrollment No restrictions on changing trades
Academics and class schedules	No pre-college classes available SST classes held during evening hours
PPEP panels	Counselor chairs panel Student's vocational instructor on panel
Student body and staff characteristics	Average student and staff characteristics
Vocational program area offerings	Building and apartment maintenance Business/clerical occupations Carpentry Food service occupations Health occupations Masonry Other construction occupations

arrival, GED attainment, vocational completion, and length of stay experiences for the representative case and then examine the extent to which these results differ for males, females

and for applicants who were assessed by OA counselors to be likely residential or likely non-residential students.

1. 16-17 Year-Old Applicants

The results for 16-17 year-old applicants are summarized in Table 2-1. Table 2-1 shows the predicted probability of arrival and, among students who enroll in Job Corps, the conditional GED attainment and vocational completion rates overall and by gender. In addition, Table 2-1 shows the predicted probabilities of staying at least 30 paid days, at least 90 paid days and at least 270 paid days (conditional upon arrival) overall and by gender.

Overall, these figures indicate that the representative 16-17 year-old applicant is very likely to enroll in Job Corps, but conditional on enrollment, is not likely to stay very long. As a result, the programmatic accomplishments of representative 16-17 year-old students are modest. For the most part, there are only minor differences in the programmatic experiences of 16-17 year-olds by gender. Some of the most notable findings include:

- Approximately 80 percent of representative 16-17 year-old applicants are predicted to arrive on center.
- Conditional upon arrival, about one-quarter (25.9 percent) of all 16-17 year old students are predicted to attain a GED and about 40 percent are predicted to complete their vocations.
- About 80 percent of eligible 16-17 year-old students who arrive on center are likely to stay at least 30 paid days on center. About one-half of students (50.1 percent) are likely to stay 90 paid days on center and relatively few students (16 percent) are likely to stay 270 paid days or more on center.
- The likelihood of each of these programmatic experiences for 16-17 year-old applicants is very similar for males and females.
- There are generally very small differences in the predicted probabilities of arrival and, conditional on arrival, of GED attainment and vocational completion among 16-17 year-old applicants by the OA counselors' assessment of likely residential status, especially for males.

For females, likely residential applicants are slightly more likely than non-residential applicants to arrive on center, stay at least 30 days, complete a GED and complete vocational training.

2. 18-19 Year-Old Applicants

Table 2-1 provides a similar set of predicted probabilities for 18-19 year-old applicants. Overall, the representative 18-19 year-old applicant is less likely to enroll in Job Corps than younger applicants, but nevertheless has slightly better programmatic experiences. This is because, conditional on enrollment, 18-19 year-old applicants are much more likely than their younger counterparts to have positive programmatic experiences. In contrast to 16-17 year-old applicants, there are large differences in programmatic experiences by gender for this age group, with male applicants more likely to arrive on center and complete their vocations as compared to female applicants. There are also large differences between likely residential and likely non-residential applicants for this age group that are consistent for both males and females, with likely residential applicants more likely to have better programmatic experiences than likely non-residential applicants. Notable findings from our analysis include:

- About 71 percent of representative applicants' aged 18-19 are predicted to arrive on center.
- Conditional on arrival, about one-third (32.4 percent) of students are expected to obtain their GED, and less than one-half (47.6 percent) are expected to complete their vocational training program.
- Male applicants aged 18-19 are significantly more likely to arrive on center (74.9 percent vs. 64.5 percent) and complete their vocations (51.5 percent vs. 42.4 percent), as compared to female applicants. After arriving on center, male students are also particularly more likely to stay on center at least 270 paid days (33.9 percent vs. 25.9 percent for females).
- There are large differences in the programmatic experiences by likely residential status for both males and females. 18-19 year-old applicants who are likely to be assigned to non-residential status are significantly less likely to arrive on center, to remain on center for certain periods, to attain a GED and much less likely to complete a vocational training program, than otherwise similar applicants who are likely to be assigned to residential status.

3. 20-24 Year-Old Applicants

The same set of results for applicants' aged 20-24 are summarized in the lower portion of Table 2-1. For the most part, these older out-of-school applicants seem to have very similar programmatic experiences to their (slightly younger) 18-19 year-old counterparts.

Although their enrollment rates are slightly lower, the predicted probabilities that 20-24 year-old applicants have positive programmatic experiences are similar to or higher than the predicted probabilities for 18-19 year-old applicants. This is due to older applicants being more likely than 18-19 year-old applicants to have better programmatic experiences conditional on having enrolled in Job Corps. We also observe the same consistent pattern of better programmatic experiences by likely residential status where residential applicants have better programmatic experiences than likely non-residential applicants. Highlights of our findings include:

- Overall, 67 percent of representative 20-24 year-old applicants are predicted to arrive on center.
- Conditional on arrival, about one-third (33.2 percent) of these students are expected to complete a GED, and over one-half (54.2 percent) are expected to complete their vocational trades.
- Male applicants aged 20-24 are more likely than female applicants to arrive on center (70.6 percent vs. 62.5 percent) and, once on center, to complete their vocational trades (56.5 percent vs. 51.2 percent).
- Likely residential applicants aged 20-24 are estimated to be more likely to enroll in Job Corps; and, after arriving on center to obtain a GED, and complete their vocational training program compared to likely non-residential applicants. The pattern and size of the differences by residential status is similar for both males and females.

D. SUMMARY

Looking across the results for these three age groups, several common patterns emerge. The most notable of these patterns are:

- The applicant enrollment rate declines with age, from 79.8 percent for 16-17 year-old applicants, to 70.5 percent for 18-19 year-old applicants and to 67.0 percent for 20-24 year-old applicants.

- Despite the higher enrollment rate of 16-17 year-old applicants, the predicted probabilities of attaining a GED while in Job Corps and of completing a Job Corps vocational training program are lower for 16-17 year-olds than they are for representative older students. This is particularly true for vocational training completion, where 54.2 percent of representative 20-24 year-old students are predicted to complete their vocational training, as compared to 47.6 percent for 18-19 year-old students and 40.4 percent for 16-17 year-olds. This is because the likelihood of completing a vocational training program conditional on enrollment is much larger for older applicants than for younger applicants.

- Conditional on arrival, older students are more likely to stay on center than comparable 16-17 year-old students. The increased likelihood of older students to stay longer periods on center is in part responsible for their better programmatic accomplishments.

- With the exception of 16-17 year-olds, there are consistent differences in programmatic experiences by gender. Specifically, male applicants are more likely to enroll and, conditional on arrival, to complete their vocational training than female applicants. However, female students are more likely to complete their GED – particularly among the 20-24 year old age group.

- With the exception of 16-17 year-olds, there are strong and consistent differences in programmatic experiences by likely residential and non-residential status for both males and females. Regardless of gender, likely non-residential applicants are less likely to have favorable programmatic experiences (i.e., less likely to enroll, less likely to attain their GED, less likely to complete their vocation, less likely to stay on center for any length of time) than otherwise similar likely residential applicants.

- The problems inherent in serving 16-17 year-old applicants identified in the process study are widespread and do not appear to be dependent on gender or residential status. However, there are very few applicants of this age that are assessed to need non-residential services, especially males.

Table 2-1. Predicted Probability of Arrival, GED Attainment, Vocational Completion, and Paid Days on Center: Overall, by Sex, Residential Status, and by Age Group

	Arrival	Conditional Upon Arrival				
		GED Attainment	Vocational Completion	30 Paid Days	90 Paid Days	270 Paid Days
Age 16-17						
Overall	79.8	25.9	40.4	80.3	50.1	16.0
Males	80.3	25.4	39.8	79.5	45.4	15.4
Females	79.0	26.8	41.4	81.5	58.3	16.8
Male residential	80.3	25.5	39.9	79.4	46.0	15.2
Male non-residential	81.2	23.7	37.9	82.6	34.4	18.1
Female residential	79.7	27.1	41.6	82.6	59.6	15.7
Female non-residential	74.9	25.1	39.7	75.1	50.3	22.7
Age 18-19						
Overall	70.5	32.4	47.6	86.6	68.2	30.3
Males	74.9	31.5	51.5	86.9	70.1	33.9
Females	64.5	33.6	42.4	86.1	65.6	25.9
Male residential	76.3	32.2	52.8	86.7	70.3	35.0
Male non-residential	58.6	23.1	35.9	88.2	67.0	22.1
Female residential	68.3	36.0	46.2	86.7	70.2	30.7
Female non-residential	51.9	26.0	30.0	84.3	50.9	13.6
Age 20-24						
Overall	67.0	33.2	54.2	81.4	61.2	28.6
Males	70.6	29.7	56.5	81.3	59.0	25.4
Females	62.5	37.5	51.2	81.5	64.0	32.9
Male residential	72.2	30.4	57.2	81.5	59.4	25.3
Male non-residential	55.1	22.9	50.0	79.1	55.6	26.4
Female residential	69.7	41.1	53.9	82.0	62.9	31.3
Female non-residential	50.5	31.6	46.7	80.7	65.7	35.7

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III. RESULTS FOR OUTREACH AND ADMISSIONS COUNSELOR TYPOLOGIES

A. INTRODUCTION

In this chapter we present our findings concerning how various outreach and admissions counselor practices and characteristics are related to programmatic experiences. We first describe the specific OA counselor typologies developed to illustrate the estimated empirical relationships between OA counselor practices and characteristics and applicants' programmatic experiences. We then present the results for the key programmatic experiences for these OA typologies separately for the three applicant age groups. The chapter concludes with a summary of the main findings that broadly apply across all three age groups.

B. OA COUNSELOR TYPOLOGIES

In Chapter II, we described the set of OA practices and characteristics that were included in the representative case. As described in that chapter, the representative case reflects an OA contractor that is affiliated with a Job Corps center. It also reflects the relatively high job turnover of OA counselors (only 1-2 years of work experience) and the limited amount of time they typically spend with prospective applicants. It also reflects the limited amount of information available to the counselor about specific centers (e.g., has a video for 25-50 percent of the centers for which they recruit). The values selected for the representative case also reflect the relatively limited OA outreach efforts (e.g., applicant first saw counselor in OA office), and the limited active applicant screening that is performed (e.g., counselor does not conduct experience or attitude/goal assessments of applicants, counselor does not make home visits). The representative case also assumes that the counselor has a target goal for the

number of new youth recruited that enter Job Corps, but the goal is not dependent on whether the recruited youth stay a certain minimum length of time (e.g., 30 days).

In Exhibit 3-1, we describe several different OA typologies that are based on differences in key OA counselor characteristics and practices in four broad categories: (1) OA contractor type; (2) OA screening practices; (3) OA outreach practices; and (4) OA counselor experience level and program knowledge. In the first column, we summarize the representative OA case that was described in Chapter II. In subsequent columns we highlight the OA characteristics that change from the representative case displayed in column (1); blank cells indicate that the values of the OA characteristics are the same as the values for the representative case. Below we provide additional details concerning the specific comparisons that can be made using these typologies.

The first category of OA characteristics and practices that differ across the typologies concerns contractor type. In Columns (2) and (3) we modify only the type of OA contractor that applies to the representative case. Column (2) presents the typology for private OA contractors that are not affiliated with a Job Corps center and Column (3) presents the typology for ES agencies. Because the only characteristic that changes from the representative case is the type of OA organization, the results presented below for these typologies can be interpreted as the simple difference in applicants' programmatic experiences associated with being recruited by the three categories of OA contractor types.

The second area examined in these typologies concerns the OA counselor's level of aggressiveness in conducting outreach and screening. As described in Columns (4) through (7) of Exhibit 3-1, we created four typologies that represent various combinations of specific OA practices that can be

summarized into four categories: (1) aggressive outreach and aggressive screening; (2) aggressive outreach and passive screening; (3) passive outreach and aggressive

Exhibit 3-1
Summary of Outreach and Admissions Typologies

Characteristics	OA Typologies								
	(1) Job Corps Center	(2) Private Non-Centers	(3) Employment Service	(4) Aggressive Outreach, Aggressive Screening	(5) Aggressive Outreach, Passive Screening	(6) Passive Outreach, Aggressive Screening	(7) Passive Outreach, Passive Screening	(8) Very Experienced, Well- Informed	(9) Less Experienced, Less Informed
OA contractor type	Job Corps Center	Private Non-Center	Employment Service	Private Non-Center			Employment Service		
OA Screening Practices	Attempted to contact no-shows				No contact with no-shows		No contact with no-shows		
	No 30-day stay goal			Had 30-day stay goal		Had 30-day stay goal			
	Video for 25-50% of the centers			50%+	<25%	50%+	<25%	50%+	<25%
	No assessment of experience or attitudes/goals			Assessed attitudes/ goals		Assessed attitudes/ goals			
	No home visits			Conducted home visits		Conducted home visits			
	Encouraged applicant to enroll in Job Corps			Strongly encouraged enrollment		Strongly encouraged enrollment			
	Discussed wait time and length of stay expectations with applicants				Wait times and length of stay not discussed		Wait times and length of stay not discussed		
OA Outreach Practices	Target goal for number enrolled					No goals	No goals		
	Applicant came to counselor's office			Counselor called applicant first	Counselor called applicant first				
OA counselor experience	CCC/Contractor type matched likely center								Contractor type did not match center
	2 years							3 years	Less than 1 year

Note: Blank cells indicate that the characteristic is the same as the representative case in Column (1).

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screening; and (4) passive outreach and passive screening. There are a number of different OA counselor practices that are used to define the degree of aggressiveness in outreach and screening. The screening practices include whether the counselor typically contacts applicants who do not show up for their scheduled enrollment at a center (no-shows), whether the OA counselor has a target goal for recruits that stay at least 30 days on center, the percentage of centers that the counselor has a video for, the types of assessments the counselor usually conducts with applicants, whether the counselor conducts home visits, whether the counselor encourages an applicant to enroll in Job Corps, and the specific topics that are generally discussed with applicants. The outreach practices used in the typologies include whether the counselor has a target goal for the number of applicants who enroll and where applicants first come into contact with the counselor. As described in Exhibit 3-1, we create these four typologies using different assumptions for these factors.

The final OA typologies developed address the extent to which counselors' experience and knowledge are related to the programmatic experiences of the applicants they recruit. In particular, Column (8) shows the typology for very experienced and well-informed OA counselors and Column (9) defines the typology for less-experienced and less-informed OA counselors. The typology in Column (8) differs from the representative case only in that the counselor has more work experience (3 years or more of experience as an OA counselor) and also has access to videos for the majority of the centers for which he or she recruits. Less-experienced and less-informed OA counselors have less than a year of work experience and have access to videos for less than one-quarter of the centers for which they recruit.

The final element of the less experience/knowledge typology presented in Column (9) concerns the counselor's knowledge of the type of contractor that operates the center an applicant is likely to attend.

Specifically, as part of the data collection for the National Job Corps Study, OA counselors filled out a supplemental form that provided information about the Job Corps center each applicant was most likely to be assigned to, as well as whether the applicant would likely attend a center that was operated by a CCC or by a private contractor. In some cases, they often didn't know whether a center was a CCC or contract center. We consider such inconsistent information as an indicator of less OA counselor knowledge/experience.

C. RESULTS

In this section, we present results illustrating the extent to which applicants' major programmatic experiences differ across the key OA counselor typologies.[6] Specifically, we compare applicants' programmatic experiences for three different categories of typologies: (1) contractor type; (2) outreach and screening practices; and (3) OA counselor experience level and program knowledge. The results are discussed separately by age group.

1. 16-17 Year-Olds

The results for 16-17 year olds are summarized in the top of Table 3-1. Table 3-1 shows the predicted probabilities of arrival; and, among applicants who enroll in Job Corps, the predicted probabilities of GED attainment, vocational completion, and length of stay (paid days) on center for all of the OA contractor typologies. Notable findings from our analysis include:

- Although arrival rates are lower for applicants recruited by OA counselors employed by State Employment Service (ES) agencies and private contractors not affiliated with a Job Corps center, the differences are not very large. Specifically, 80 percent of applicants recruited by the

[6] It should be noted that the results presented in this chapter for GED attainment and for vocational completion typically do not vary across the OA typologies. This is because many of the OA characteristics were omitted from these models that were estimated only among students who arrived on center because they were not found to be statistically significant.

representative OA counselor employed by a contractor affiliated with a center enroll in the program as compared to about 75-77 percent of applicants recruited by other contractors. The likelihood of staying in the program at least 30, 90, and 270 paid days is lower for students recruited by a counselor employed by the ES as compared to counselors employed by private non-centers and by Job Corps centers.

- There are significant differences in applicants' programmatic experiences that are related to OA outreach and screening practices. Specifically, 16-17 year-old applicants served by OA counselors that follow passive outreach practices (i.e., placing the burden on the applicant to initiate contact with the program) and aggressive screening practices (i.e., conducting assessments of applicants and having a goal for enrollees who stay 30 days) are more likely than other applicants to have positive programmatic experiences. Applicants recruited by OA counselors who follow aggressive outreach and passive screening practices have the lowest applicant arrival rates. Over 80 percent of the applicants recruited by counselors following passive outreach and aggressive screening practices arrive on center. This compares to 50-55 percent of the applicants served by counselors that follow passive screening strategies. Conditional on arrival, students served by counselors that follow this latter approach are also much less likely to stay on center after arrival than students recruited by counselors that follow aggressive screening practices.

- Applicants recruited by more experienced and well informed OA counselors are much more likely to arrive on center compared to applicants recruited by less experienced and informed counselors. For example, 83 percent of applicants recruited by more experienced and informed counselors enroll in Job Corps, as compared to only 73 percent for those served by less experienced and less-informed counselors and to 80 percent for the representative case. However, among those who arrive on center, students recruited by OA counselors with different experience levels have similar lengths of stay.

2. 18-19 Year-Old Applicants

Table 3-1 provides a similar set of predicted probabilities for 18-19 year old applicants. Notable findings from our analysis include:

- The probability of arrival on center and length of stay on center for 18-19 year old applicants recruited by counselors working for different OA contractors are very similar. For example, whereas 71 percent of applicants aged 18-19 recruited by OA contractors affiliated with a center or the ES enroll in Job Corps, 68 percent of those recruited by private contractors not affiliated with a center enroll. Unlike the younger applicants, conditional on arrival, 18-19 year old students recruited by counselors working for a Job Corps center are slightly less likely to stay 30, 90 and 270 paid days on center compared to students recruited by counselors working for other OA contractors.

- There are substantial differences in 18-19 year-old applicants' programmatic experiences across the various categories of OA counselor outreach and screening practices. Specifically, 18-19 year-old applicants served by OA counselors that follow passive outreach practices and aggressive screening practices are more likely than other applicants to arrive on center. For example, about 75 percent of the applicants recruited by such counselors arrive on center as compared to between 28-53 percent of the applicants recruited by counselors that follow different strategies. In addition, conditional upon arrival, students recruited by counselors that follow aggressive screening practices (and either passive or aggressive outreach practices) are more likely to remain on center than students recruited by counselors that follow other practices.

- Applicants in the 18-19 year old age group recruited by more experienced and informed counselors are more likely to arrive on center. For example, 72 percent of applicants recruited by more experienced and well-informed OA counselors enroll in Job Corps, as compared to only 63 percent of applicants recruited by less experienced and less-informed counselors. Conditional on arrival, however, there are no differences in length of stay for these students.

3. 20-24 Year-Old Applicants

Results for applicants' aged 20-24 are summarized in the third panel of Table 3-1. Notable findings of our analysis are summarized below:

- Overall, 67 percent of 20-24 year-old applicants recruited by counselors working for centers holding OA contracts are predicted to arrive on center, compared to about 58 percent of applicants recruited by other OA contractors. Conditional on arrival, students recruited by counselors working for centers or ES agencies are more likely to remain on center compared to students recruited by OA contractors affiliated with private (non-centers) agencies.

- About 73 percent of 20-24 year-old applicants recruited by counselors that follow aggressive screening practices enroll in Job Corps, as compared to 20-35 percent of applicants recruited by OA counselors that follow passive screening practices. Among those recruited by OA counselors that follow passive screening, students recruited by counselors that follow passive outreach are more likely to stay on center as compared to students recruited by counselors that follow more aggressive outreach practices.

- The experience and knowledge levels of OA counselors are significantly related to the programmatic experiences of 20-24 year-old applicants. For example, applicants recruited by more experienced and well-informed counselors are about 18 percentage points more likely to enroll in Job Corps than otherwise similar applicants recruited by less experienced and less-informed counselors. However, among the oldest age groups that arrive on center, students recruited by experienced and informed counselors are somewhat less likely to remain on center.

D. SUMMARY

Several common patterns emerge from examining the results for the various OA typologies across these three age groups. Specifically, there are a number of relationships between applicants' programmatic experiences and counselor characteristics and OA practices that consistently appear in the results described above. The most notable of these patterns are:

- Applicants recruited by Employment Service agencies or private contractors not affiliated with Job Corps centers tend to be slightly less likely to enroll as compared to applicants recruited by counselors employed by an OA contractor affiliated with a Job Corps center. We find that the patterns regarding length of stay by OA agency type vary across age groups. As such, there appears to be no single OA agency type that leads to longer stays on center for all age groups of students.

- The outreach and screening practices of OA counselors play a very significant role in applicants' programmatic experiences. For all age groups, there are large differences in the likelihood of arrival on center associated with aggressive screening practices of OA counselors. Moreover, for the two younger age groups, there are substantial differences in the length of stay of applicants recruited by counselors that follow aggressive screening as opposed to passive screening practices. For example, conditional on arrival, 16 - 19 year old students recruited by a counselor following aggressive screening practices are likely to stay on center longer than those recruited by counselors that follow passive screening practices. The differences by outreach practices are not as apparent for 20-24 year-old applicants.

- The experience level and knowledge of the OA counselor is also significantly related to applicant experiences. In particular, applicants recruited by more knowledgeable and experienced OA counselors are consistently much more likely to arrive on center than applicants recruited by less experienced and knowledgeable counselors, although length of stay is similar for students recruited by both groups of OA counselors.

Table 3-1. Predicted Probability of Arrival, GED Attainment, Vocational Completion, and Paid Days on Center: Outreach and Screening Typologies by Age Group

	Arrival	Conditional Upon Arrival				
		GED Attainment	Vocational Completion	30 Paid Days	90 Paid Days	270 Paid Days
Age 16-17						
Job Corps Center	79.8	25.9	40.4	80.3	50.1	16.0
Private non-centers	76.8	25.9	40.4	80.6	47.5	15.2
Employment service	74.8	25.9	40.4	76.4	43.0	13.8
Aggressive outreach/aggressive screening	67.5	24.4	32.6	82.7	42.9	13.0
Aggressive outreach/passive screening	50.2	24.4	32.6	65.6	38.6	12.6
Passive outreach/aggressive screening	80.5	25.9	40.4	82.9	53.4	17.1
Passive outreach/passive screening	55.6	25.9	40.4	61.2	37.7	12.9
Less experienced and less informed	73.3	25.9	40.4	81.1	55.9	17.9
Very experienced and well informed	83.0	25.9	40.4	80.3	57.5	18.4
Age 18-19						
Job Corps Center	70.5	32.4	47.6	86.6	68.2	30.3
Private non-centers	67.6	32.4	47.6	89.0	73.1	32.5
Employment service	70.5	32.4	47.6	89.2	71.7	31.9
Aggressive outreach/aggressive screening	52.9	30.2	50.9	85.7	66.9	29.5
Aggressive outreach/passive screening	28.0	30.2	50.9	65.0	47.9	19.9
Passive outreach/aggressive screening	74.6	32.4	47.6	85.0	67.3	29.9
Passive outreach/passive screening	47.2	32.4	47.6	73.9	59.4	25.7
Less experienced and less informed	63.1	32.4	47.6	87.2	63.8	28.4
Very experienced and well informed	71.8	32.4	47.6	83.5	65.4	29.1
Age 20-24						
Job Corps Center	67.0	33.2	54.2	81.4	61.2	28.6
Private non-centers	57.7	33.2	54.2	68.0	50.5	23.6
Employment service	57.6	33.2	54.2	76.5	62.6	29.3
Aggressive outreach/aggressive screening	72.5	32.1	55.6	62.3	37.7	15.8
Aggressive outreach/passive screening	35.0	32.1	55.6	63.8	51.5	23.9
Passive outreach/aggressive screening	73.4	33.2	54.2	84.4	62.8	29.4
Passive outreach/passive screening	20.0	33.2	54.2	67.6	62.2	31.9
Less experienced and less informed	52.4	33.2	54.2	85.6	65.5	30.6
Very experienced and well informed	70.6	33.2	54.2	77.1	59.0	27.6

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IV. RESULTS FOR JOB CORPS CENTER TYPOLOGIES

A. INTRODUCTION

In this chapter we summarize the implications of our empirical model relating Job Corps center characteristics to the key programmatic experiences discussed in previous chapters. We first describe the specific center typologies that we developed to illustrate the estimated empirical relationships between center characteristics and student experiences. We then present results of the various programmatic experiences for key center typologies by student age group. The chapter concludes with a summary of the main findings that broadly apply across all age groups.

B. JOB CORPS CENTER TYPOLOGIES

Chapter II discussed the characteristics used to describe the representative center. Specifically, the representative center is a medium-sized center (226-495 student slots), located in a city with a population of at least 50,000, operated by a private contractor that also has a contract to provide placement services to former students. This representative center offers the most common Job Corps vocational training programs (with student preferences guiding the trade selection and with no restrictions on changing trades), a standard Job Corps academic program, and does not offer pre-college classes. Exhibit 4-1 summarizes these key characteristics of the representative center and explains the differences in these characteristics that define the specific center typologies created to illustrate the association between various center factors and students' programmatic experiences.

Exhibit 4-1 Summary of Job Corps Center Typologies

Characteristics	Center Typologies									
	(1) Representative Center	(2) Center with OA&P	(3) Large Contract Center	(4) Small CCC Center	(5) Strong Vocational and Academics	(6) Weak Vocational and Academics	(7) Only High Demand Vocations	(8) Center with All Vocations	(9) Extensive Facilities	(10) Limited Facilities
Broad Center Characteristics	226-495 slots		>735 slots	<226 slots						
	City of 50,000			Rural						
	Placement contract only	Both OA&P	Both OA&P	No OA or P						
OEP and Vocational Assignment	5 - 11 hours in OEP				12+ hours in OEP	Less than 5 hours in OEP				
	Vocational trade begins 2-4 weeks after arrival				Less than 2 weeks	More than 4 weeks				
	Student selects own trade					No				
	Placed in second choice trade if first choice full				Can wait for first choice	No waiting lists				
Academics/PPEP	No pre-college classes				Yes					
	Student's counselor and vocational instructor on PPEP				Add academic instructor on PPEP	PPEP counselor only				
Vocational Program Offerings	Building and apartment maintenance Business/ Clerical Carpentry ***Food Service*** Health Masonry Other construction		Add Welding, Mechanic and Other Service	Drop Health Add Welding			Drop Carpentry and Masonry; Add Mechanic	All vocations available		
Center Facilities	No special arrangements for new students								Separate rooms for new students	
	Athletic field									No
	Average number of beds per room								2-4 beds per room	9 or more beds per room

Note: Blank cells indicate that the characteristic is the same as for the representative center.

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The typologies described in Exhibit 4-1 change center characteristics in five broad categories: (1) center involvement in outreach, admissions and placement (OA&P) (column 2); (2) center operator, size and location (columns 3 and 4); (3) quality of vocational and academic programs (columns 5 and 6); (4) the specific vocational training programs available at the center (columns 7 and 8); and (5) the range of residential living facilities (columns 9 and10). In the remainder of this section, we provide additional details regarding the specific changes in center characteristics that define the typologies described in Exhibit 4-1.

The first typology varies the center's involvement in OA & P. As described above, our representative center also holds a contract for placement services, but does not have an outreach and admissions contract. The typology described in Column (2) changes this characteristic such that the center has both a contract for outreach and admissions, as well as placement services. Thus, a comparison of results for centers with the characteristics presented in the first and second columns of Exhibit 4-1 illustrates the differences in students' programmatic experiences that are associated with expanding center involvement to include all major components of the Job Corps program.

The second typology illustrates the combined effects of center operator, size and location. Specifically, Column (3) depicts a large contract center (735 or more slots) that also holds contracts for both OA and placement services and Column (4) describes a small center (less than 225 slots), operated by a CCC agency (located in a rural area) that is not involved in any OA or placement contracts. Results for the two typologies described in Columns (2) and (3) illustrate how students' programmatic experiences are related to increasing center size from medium to large and expanding vocational offerings accordingly. Similarly, comparing results for our representative center (Column (1)) and the small CCC center depicted in Column (4) illustrates how students' programmatic

experiences differ between the representative privately operated center and a representative center operated by a CCC. In interpreting the results presented below showing the predicted programmatic experiences for students who are likely to attend the representative center as compared to small CCC centers and large contract centers, it is important to keep in mind how all of these different characteristics are defined under these typologies.

The next two columns of Exhibit 4-1 describe center typologies that vary features of the vocational and academic programs to illustrate the differences in applicant programmatic experiences associated with what we term "strong" and "weak" vocational and academic programs. The distinction between strong and weak programs involves a number of characteristics that change from the representative case to capture some of the different features of vocational and academic programs. For example, Column (5) depicts a center with strong vocational and academic programs. This center is characterized by having students spend more time in the Occupational Exploration Program (OEP) to decide which trades to select, moving students quickly into their vocational programs, allowing students to wait for an opening in their desired vocation if it was initially full, offering pre-college classes and having one of the student's academic instructors included in his/her P/PEP. In contrast, centers with weak vocational and academic programs are defined in Column (6). These centers are characterized by students spending less than 5 hours in OEP, taking over 4 weeks to assign students to a vocational program, no "waiting lists" for vocational trade choices, and not having any of a student's vocational or academic instructors involved in his/her P/PEP. As our description of these center typologies indicates, any differences in students' programmatic experiences across the different center typologies are a result of numerous characteristics changing and cannot be attributed to any single center characteristic.

The next two columns alter the vocational offering available at the representative center. As

indicated earlier, the representative center is defined as offering the most common Job Corps vocational training programs. The typology defined in Column (7) modifies this characteristic by changing the group of trades offered from the most common vocational programs to offering only the vocational programs that were identified as having the largest number of average annual job openings among the training areas currently available in Job Corps, which we refer to as "high-demand" vocational programs. This involves expanding the trades offered on center to include mechanics occupations training, as well as eliminating offerings in carpentry and masonry. Column (8) depicts a center that offers programs in all of the 13 broad occupational areas currently available in Job Corps.[7] These typologies illustrate the extent to which students' programmatic experiences differ by vocational program offerings in terms of the most common vocations, high-demand occupations only, and all vocations.

Finally, the last two columns describe centers with different levels of residential living facilities. Specifically, the typology in Column (9) depicts a center with extensive residential living facilities. Consistent with the representative center, this typology assumes that the center has an athletic field. In addition, under this typology, the center provides new students with separate rooms, and all students are housed in rooms with no more than three other students. In contrast, Column (10) defines a center typology with limited residential living facilities as this center not only lacks an athletic field, but all students live in rooms with eight or more other students. Thus, comparisons in students' experiences across these typologies involve differences

[7] The 13 occupational areas currently available at Job Corps include: Masonry, Food Service, Carpentry, Building Maintenance NTC, Building Maintenance Non-NTC, Health Occupations Business, Mechanic, Service, Construction NTC, Construction Non-NTC, Welding, and Other.

in the availability of athletic fields, as well as differences in student privacy in the dormitories during their Job Corps stay.

C. RESULTS

To illustrate the extent to which programmatic experiences are related to these various center typologies, this section presents the predicted probabilities conditional on arrival for the following programmatic experiences: GED attainment, vocational completion, and length of stay (30, 90 and 270 paid days).[8] Specifically, we present results comparing students' programmatic experiences across the ten different center typologies described above. The results are presented separately for students in the three age categories.

1. 16-17 Year-Old Students

The results for 16-17 year old students are summarized in Table 4-1. Table 4-1 presents the predicted probabilities of GED attainment, vocational completion, and length of stay (paid days) on center for all of the center typologies. Notable findings from our analysis include:

- There are no substantial differences in students' programmatic experiences that are related to center involvement in an OA contract over and above the center holding a placement contract.
- There are more substantial differences in students' programmatic experiences across the typologies that vary center operator, size and location. Specifically, 16-17 year-old students who are likely to enroll at small CCC centers are less likely to complete their GED and more likely to complete their vocational training and stay on center longer than similar students to a representative center. Further students who are likely to enroll at larger centers operated by private contractors are less likely to complete their GED and more likely to complete their

[8] In this chapter, we do not present results for the likelihood of arrival on center. This is because the only center characteristic that significantly affected the predicted probability of arrival was center size, with higher predicted probability of arrival for students likely to be assigned to large contract centers and small CCCs. As a result, the predicted arrival rates for applicants do not vary by center characteristics and the results in this chapter focus on the relationship between center characteristics and in-program experiences for students who arrive on center.

vocational training despite shorter stays on center as compared to similar students at the representative center.

- Although vocational completion rates at large contract centers are lower than at CCCs, they are substantially higher than at the representative center despite serving students that stay for significantly shorter periods. These large centers appear to produce a relatively high volume of vocational completers within a relatively short average duration on center. This higher rate of vocational completion also does not appear to come at the cost of any apparent reduction in GED attainment as the slight drop in GED attainment that is shown in Table 4-1 for large contract centers was already apparent for centers that also perform OA activities.

- 16-17 year-old students who are likely to attend a center with strong vocational and academic programs are much more likely to have positive programmatic experiences. For example, about 59 percent of students served by centers with strong academic and vocational programs are predicted to attain a GED, compared to 26 percent of students served by the representative center, and about 13 percent of students served by centers with weaker programs. In addition, students served by centers with stronger programs are also much more likely to complete their vocational trade programs and to stay at a center for longer periods as compared to students served by the typical center or by centers with weaker programs.

- Young students at centers with all vocations available have more positive experiences as compared to students at either the representative center or at a center with only high demand vocations available. Specifically, these students are more likely to obtain a GED, complete vocational training and stay on center for longer periods.

- Students aged 16-17 who are likely to attend centers with more extensive residential living facilities have more positive programmatic experiences in terms of GED completion and length of stay on center than those likely to attend centers with limited residential living facilities or a representative center. However, unexpectedly, students in centers with more limited residential facilities are more likely to complete their vocational training compared to students in centers with more extensive facilities.

2. 18-19 Year-Old Students

Table 4-1 provides the same set of predicted probabilities for 18-19 year-old students. Notable findings from our analysis include:

- The role of center involvement in outreach and admissions contracts along with placement contracts is quite minimal with respect to GED attainment and vocational completion for students 18-19 years old. However, students in this age group who are likely to attend centers that hold both outreach and admissions, and placement contracts are slightly more likely to stay on center than students who attend the representative center, which only has a placement

services contract.

- Center size and center operator are significantly related to students' programmatic experiences. The results show that 18-19 year-old students who are likely to attend small CCC centers are consistently more likely to attain a GED and complete vocational training relative to students likely to attend a representative center. They also achieve these programmatic experiences through relatively longer durations of stay on center. In contrast, students in this age group who are likely to attend large contract centers also tend to complete their GED at higher levels than their counterparts who are likely to attend a representative center, but these better experiences are also associated with shorter program stays.

- Students in this age group who are likely to attend centers that have strong vocational and academic programs are much more likely to have positive programmatic experiences compared to students who are likely to attend a representative center, and significantly more likely to have more positive experiences compared to students who are likely to attend centers with weak vocational and academic programs.

- Similar to younger students, students aged 18-19 years who attend centers with all vocations available fare significantly better in terms of vocational completion compared to students at either the representative center or a center with only high demand vocations available. However, these students do not appear to stay as long on center and have slightly lower GED attainment rates than students that attend the representative center or a center with only high demand vocations.

- Students in this age group who are likely to attend centers with more limited residential living facilities have much less positive programmatic experiences as compared to 18-19 year old students at a representative center. However, students at centers with more extensive residential living facilities generally experience only slightly better accomplishments with respect to GED attainment, vocational completion, and length of stay as compared to students at the representative center.

3. 20-24 Year-Old Students

The empirical results for 20-24 year-old students are summarized in Table 4-1. Notable findings from the empirical models for this age group include:

- Students aged 20-24 who are likely to attend a center that holds both an outreach and admissions contract and a placement contract experience slightly less favorable programmatic accomplishments compared to students at a representative center with responsibility only for placement activities. Specifically, these students are much less likely to attain their GED and less likely to complete their vocational trade.

- Center size and operator type is significantly related to programmatic experiences for students

aged 20-24. For example, students who are likely to attend small CCC centers are much more likely to complete their vocational training and to stay on center longer relative to students at a representative center, and to those at large contract centers. However, students at a representative center are more likely to achieve a GED than students at large contract centers or small CCCs.

- 20-24 year old students who are likely to attend centers that have strong vocational and academic programs are much more likely to have positive programmatic experiences compared to students at a representative center and centers with weaker programs. For example, about 66 percent of students at centers with strong vocational and academic programs are expected to attain a GED, compared to 33 percent of students at a typical center and compared to less than 1 percent of students at centers with weak academic and vocational programs. This same pattern holds for vocational completion. In addition, students at centers with strong vocational and academic programs are more likely to stay on center for longer periods of time relative to students at all other centers.

- In contrast to the younger age groups, older students at centers with all vocations available have poorer programmatic experiences than similar students in centers that offer only high demand vocations.

- Students likely to attend centers with limited residential living facilities are less likely to have positive programmatic experiences. However, similar to the younger age groups, there does not appear to be a strong relationship between programmatic experiences and more extensive residential facilities for 20-24 year old students. For example, these students have very similar experiences with respect to GED attainment and vocational completion to students at a representative center. Thus, it appears that although residential living facilities do matter, once you meet a certain minimum level, more extensive facilities do not seem to be related to better programmatic experiences.

D. SUMMARY

Looking across the results for these three age groups, several common patterns emerge concerning the effects of various center characteristics and practices. The most notable of these patterns is:

- There are no consistent differences in students' programmatic experiences that are related to center involvement in an OA contract over and above the center holding a placement contract.

- Center operator type, size and location play an important role in students' programmatic experiences. For all age groups, students who are likely to attend small CCC centers are more likely to complete their vocational trade training and more likely to stay on center for longer periods of time compared to students at other types of centers. Further, students in the youngest and oldest age groups who are likely to attend small CCC centers are also more likely to complete a GED.

- Across all age groups we consistently find that students who are likely to attend centers with strong vocational (as evidenced by strong vocational exploration, student choice of occupation, start of vocation training soon after arrival) and academic programs (as evidenced by pre-college classes and participation of the academic counselor in PPEPS) have the most positive programmatic experiences. As expected, this is particularly true with respect to GED attainment and vocational completion. Moreover, the findings also suggest that older students tend to leave centers with weaker programs more quickly, and with less positive program experiences, compared to younger students facing similar circumstances.

- A center's particular mix of vocational offerings appears to play a role in an applicant's programmatic experiences although the impact is very different by age group. Among 16-17 year olds, students that attend centers with all vocations available are likely to have more positive programmatic experiences. However, among the older age groups, students that attend centers with all vocations available are likely to have less positive programmatic experiences than students who attend the representative center.

- In general, we find that limited facilities (i.e., no athletic fields, 9 or more students per dorm room) are associated with relatively poorer applicant programmatic experiences, but that extensive facilities provide little if any extra value over typical facilities. The relationships are the strongest with length of stay on a center. Across all age groups, more limited residential facilities are generally associated with a lower probability of staying on center, particularly for longer lengths of stay.

- In the process report we found that centers differ appreciably in the extent to which the characteristics of their staff (e.g., race/ethnicity, gender) match the characteristics of their students. We reported that students are more likely to find positive role models and mentors if the backgrounds of the students match the backgrounds of the staff. Thus, we hypothesized that centers in which the racial and gender backgrounds of the staff match the backgrounds of the students would result in more positive experiences. However, we found no consistently significant relationship when we examined the effects of the racial/gender composition of both students and staff on applicant programmatic experiences.

- Finally, we find that the OMS center performance rankings are not related to the students' measured programmatic experiences. Since Job Corps is a performance-driven system, we hypothesized that higher-ranking centers are more likely to obtain positive programmatic experiences. However, in analyses not shown in this report, we found no relationship between

OMS rankings and applicant arrival, length of stay, GED attainment or vocational completion. There are at least two possible interpretations of this lack of a relationship between OMS rankings and programmatic experiences. First, it may indicate that the OMS system does not adequately adjust for differences in student characteristics, since after controlling for background characteristics, programmatic achievements seem to be unrelated to OMS ranking. Second, the lack of a relationship could be due to the fact that the OMS system at the time of the study included many other measures in addition to those examined here.

Table 4-1. Predicted Probability of GED Attainment, Vocational Completion, and Paid Days on Center: Center Typologies by Age Group

	Conditional Upon Arrival				
	GED Attainment	Vocational Completion	30 Paid Days	90 Paid Days	270 Paid Days
Age 16-17					
Representative center	25.9	40.4	80.3	50.1	16.0
Center with outreach admissions and placement contract	21.5	43.0	79.0	46.6	16.0
Large contract center	20.6	52.9	70.7	43.2	14.5
Small CCC center	23.4	67.8	87.2	64.0	28.4
Strong vocational and academics	59.1	55.5	80.1	61.6	18.0
Weak vocational and academics	12.8	41.9	77.4	53.5	18.8
Only high demand vocations	25.8	41.4	80.3	51.9	15.6
Center with all vocations	31.5	51.5	86.9	70.1	33.9
Extensive facilities	26.1	35.0	81.9	54.8	20.3
Limited facilities	12.8	45.7	78.8	36.5	8.0
Age 18-19					
Representative center	32.4	47.6	86.6	68.2	30.3
Center with outreach admissions and placement contract	35.5	47.6	82.6	64.4	27.0
Large contract center	45.0	47.6	77.2	61.2	22.3
Small CCC center	42.0	57.2	92.8	74.8	31.5
Strong vocational and academics	44.2	57.3	92.4	68.8	38.9
Weak vocational and academics	9.9	37.7	80.4	62.0	12.8
Only high demand vocations	33.1	46.2	86.6	67.9	27.2
Center with all vocations	29.7	56.5	81.3	59.0	25.4
Extensive facilities	35.0	47.9	90.6	66.9	29.9
Limited facilities	20.1	28.8	82.5	53.6	13.2
Age 20-24					
Representative center	33.2	54.2	81.4	61.2	28.6
Center with outreach admissions and placement contract	26.4	44.2	73.8	63.7	28.3
Large contract center	18.7	44.1	78.9	69.4	25.6
Small CCC center	18.7	65.6	88.3	73.6	34.4
Strong vocational and academics	66.2	66.9	81.7	69.4	46.1
Weak vocational and academics	0.4	18.9	86.0	10.7	0.5
Only high demand vocations	34.5	54.0	81.4	61.1	29.0
Center with all vocations	25.1	41.3	79.7	47.5	15.2
Extensive facilities	33.8	52.6	87.3	57.3	30.5
Limited facilities	16.4	36.9	90.5	51.2	6.3

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V. SUMMARY AND CONCLUSIONS

A. INTRODUCTION

In this report, we presented the results of statistical models designed to improve our understanding of the factors that are related to Job Corps applicants' programmatic experiences. In particular, we examined the role that outreach and admissions counselor characteristics and practices, and center characteristics and practices play in key applicant programmatic experiences and accomplishments. The Job Corps programmatic experiences and accomplishments we examined include the likelihood of arrival, GED attainment, vocational completion and length of stay. The results presented in this report form the basis for subsequent analysis of the impacts of programmatic experiences on applicants' labor market outcomes.

It is important to note that the findings from the statistical models presented in this report have their roots in the process analysis study (Johnson et. al., Februarv 1999). More specifically, the process analysis identified the basic Job Corps program model, as well as numerous variations in the way the model is implemented across OA counselors and centers. The process analysis report hypothesized that these variations in practices could lead to variations in students' programmatic experiences and, in turn, in post-program outcomes. This report represents the results of analyses designed to test key hypotheses about the relationships between program characteristics or practices and students' program experiences. However, whether these different experiences affect applicants' post-program labor market outcomes will be addressed in subsequent analyses.

In this concluding chapter, we summarize the main findings from this report and link them to the findings from the process analysis. This chapter is organized by the two types of typologies described in

previous chapters: (1) OA contractor/counselor typologies; and (2) center typologies. The chapter concludes with some caveats and a discussion of next steps.

B. OUTREACH AND ADMISSIONS COUNSELOR TYPOLOGIES

Three main types of contractors are provided by outreach and admissions services: (1) ES and other state and local agencies; (2) private organizations affiliated with a Job Corps center; and (3) private organizations not affiliated with a center. The process analysis identified several key findings and potential hypotheses concerning OA contractor/counselor characteristics and practices and the potential impacts on applicant programmatic experiences. The results reported in Chapter III generally support the hypotheses from the process analysis. Specifically, we find:

Applicants served by ES agencies or private contractors not affiliated with Job Corps centers tend to be less likely to enroll in Job Corps compared to applicants served by OA contractors affiliated with a Job Corps center. Although in this report we found that these differences are relatively small, they are important in light of possible efforts to increase the role that centers have in OA activities. The patterns regarding OA contractor type and length of stay on center vary by age group. As such, there does not appear to be a single agency type that is associated with longer stays across all age groups.

The outreach and screening practices of OA counselors also play a very significant role in an applicant's programmatic experiences. In the process report we found that although OA counselors on average devote considerable time to outreach activities, some counselors follow a more passive approach to recruiting and, for the most part, essentially require interested youth to contact them. Although such an approach may produce fewer applicants and make it more difficult for counselors to meet their arrival goals, such a process also results in a more committed pool of youth that make it to the application stage. Based on these results, we hypothesized that OA counselors that follow a passive approach to outreach will recruit youth who are more committed to Job Corps and as such, more likely to enroll and have better programmatic experiences, than applicants recruited by OA counselors that follow an aggressive outreach strategy.

The process analysis also documented that most OA counselors primarily screen into the program youth that meet the "traditional," easily documentable eligibility criteria related to age, U.S. citizenship, income and so forth; relatively few youth that are otherwise eligible are found ineligible by OA counselors for other criteria related to capability and aspirations to participate. Thus, we hypothesized that OA counselors that follow aggressive screening practices are more likely to identify youth that can benefit

from the program and achieve more positive programmatic experiences.

In this report we found that the outreach and screening practices of OA counselors play a very significant role in an applicant's programmatic experiences. For all age groups, there are large differences in the likelihood of arriving on center due to the aggressive screening practices of OA counselors. For the two younger groups, we also find that there are large increases in the likelihood of having more positive programmatic experiences for applicants served by counselors that follow passive outreach practices. The differences by outreach practices are smaller for 20-24 year-old applicants. These results suggest that it is important to provide training so that OA contractors and counselors understand the effects that different outreach and screening practices have on youths' programmatic experiences so that they can adjust their strategies to maximize program experiences for applicants.

The experience level and knowledge of the OA counselor that serves an applicant plays a key role in an applicant's experiences. In the process report we found that OA counselors had limited job tenure and limited firsthand knowledge of the centers for which they recruit. Moreover, center staff reported that this high turnover and lack of knowledge led to many students arriving on center without a good idea of what to expect and what the specific center offers. Thus, we hypothesized that applicants recruited by OA counselors that have less experience and less knowledge about the program are likely to stay shorter periods in Job Corps and have poorer programmatic experiences than applicants served by OA counselors with more experience and program knowledge.

In this report we found that the experience level and knowledge of the OA counselor that recruits an applicant plays a key role in an applicant's experiences. Uniformly across all age groups, applicants served by experienced and well-informed OA counselors are much more likely to arrive at Job Corps than applicants served by less experienced and less knowledgeable counselors. This emphasizes the importance of ensuring that up-to-date materials/information about centers and videos depicting life on center are available and used by OA counselors. It also emphasizes the importance of developing recruitment/retention strategies to reduce the high turnover of OA counselors.

C. CENTER TYPOLOGIES

The process analysis study identified several variations in the ways in which centers implement the Job Corps program model that could be related to applicants' programmatic experiences. The results presented in Chapter IV confirm the general nature of the findings obtained from the process analysis. These findings include:

For the most part, adding center involvement in OA activities (in addition to placement activities) is minimally related to an applicant's programmatic achievements. In Chapter IV, we reported that only for older out-of-school youth does center involvement in outreach and admissions

matter, and in this case it is associated with a slightly lower likelihood of positive programmatic experiences as compared to the representative case.

Center operator type, size and location play an important role in students' programmatic experiences. We found that for all age groups, students at small CCC centers are more likely to complete their vocational trade and more likely to stay on center for longer periods of time compared to students at other types of centers. This is consistent with the process analysis findings indicating that CCC centers are more focused on vocational training than other centers. In addition, we find that 16-17 year-old students who attend large contract centers have higher vocational completion rates than the representative center, but with much shorter lengths of stay. This relationship was not anticipated in the process study.

A center's particular vocational offering plays a role in an applicant's programmatic experiences. In the process report we found that the range of vocational offerings, and the extent to which the training programs offered are "in demand," varies considerably across centers. We hypothesized that centers that offer a wider range of vocational programs, as well as trades that are more in demand, are more likely to produce positive programmatic experiences for students.

A center's particular mix of vocational offerings appears to play a role in a student's programmatic experiences although the impact is very different by age group. Among 16-17 year old students, students that attend centers with all vocations available are likely to have more positive programmatic experiences. However, among the two older age groups, students that attend centers with all vocations available generally have poorer programmatic experiences. The more positive experiences for young students could reflect the value of having a wider choice of vocations available for students who are less sure of what vocational training they are interested in. It is also important to note, however, that this result refers strictly to substitutions of existing trades for others, or by offering trades that are already available at other centers, and do not necessarily hold if Job Corps were to introduce entirely new vocational training programs.

Applicants to centers with strong vocational and academic programs have the most positive programmatic experiences. In the process report, we found many differences across centers in the strength of their vocational programs, in terms of the amount of OEP provided, and policies for assigning students to trades and switching among trades. Also, although all centers offer the standard Job Corps academic program, some centers supplement the basic curriculum with other academic programs that provide additional services to youth. Thus, we hypothesized that students who attend centers with stronger vocational and academic programs will be more likely to have positive programmatic experiences.

The results presented in this report support this hypothesis. Specifically, across all age groups, we consistently find that applicants to centers with strong vocational and academic programs have the most positive programmatic experiences. As expected, this is particularly true with respect to GED attainment and vocational completion.

Limited residential living facilities are associated with relatively poor applicant programmatic experiences, but extensive facilities do not provide "extra value." In the process report, we found that the quality of center facilities varies considerably. This was particularly true for residential living facilities, which is likely to significantly affect program length of stay. Thus, we hypothesized that centers with facilities that provide greater student privacy will result in longer student lengths of stay and better program experiences. In addition, we found that recreation is an important part of residential living and hypothesized that centers that provide more recreational opportunities for students will result in longer student lengths of stay and better program experiences.

In this report, we found that limited residential facilities are associated with relatively poor applicant programmatic experiences, but that extensive facilities do not provide extra value over the typical facilities provided by our representative center. As suspected, the differences associated with residential living facilities are largest for applicants' length of stay on a center. Across all age groups, more limited residential facilities are associated with a lower probability of staying on center -- particularly for longer lengths of stay.

The "match" between the racial/gender composition of students and staff is not related to student programmatic experiences. In the process report we found that centers differ appreciably in the extent to which the characteristics of their staff (e.g., race/ethnicity, gender) match the characteristics of their students. We reported that students are more likely to find positive role models and mentors if the backgrounds of the students match the backgrounds of the staff. Thus, we hypothesized that centers in which the racial and gender backgrounds of the staff match the backgrounds of the students would result in more positive experiences. However, in preliminary analysis not reported here, we found no relationship between the racial/gender composition of students and staff and applicant programmatic experiences.

The OMS center performance rankings are not related to the students' measured programmatic experiences. Job Corps is a performance-driven system. Thus, we hypothesized that higher-ranking centers are more likely to obtain positive programmatic experiences. However, in analyses not shown in this report, we found no relationship between OMS rankings and applicant programmatic experiences related to arrival, length of stay, GED attainment or vocational completion. There are at least two possible interpretations of this lack of a relationship between OMS rankings and programmatic experiences. First, it may indicate that the OMS system does not adequately adjust for differences in student characteristics, since after controlling for background characteristics, programmatic achievements seem to be unrelated to OMS ranking. Second, the lack of a relationship could be due to the fact that the OMS system at the time of the study included many other measures not examined here.

D. CAVEATS AND NEXT STEPS

In this report, we presented the results of the first step of a two-step process to understand how

different Job Corps programmatic experiences impact applicants' post-program labor market outcomes. Specifically, we summarized our findings of the statistical relationship between various programmatic experiences and OA and center typologies. We also linked the findings to the results of the process analysis study.

In reviewing these results, it is important for the reader to keep in mind that they do not represent causal relationships. That is, the analysis addresses the effects of particular OA or center approaches for contractors or centers that *chose* to adopt the approach. However, the results cannot be used to address how the approach would work in other OA agencies or centers that chose to adopt other approaches. Nevertheless, the analysis provides important suggestive findings about the success of particular program approaches if they were to be adopted on a broader scale.

The second step of this analysis is to examine how programmatic experiences impact applicant labor market outcomes. In Appendix D, we provide selected exploratory results of the effects of programmatic experiences on weekly earnings measures constructed from the 30-month post-program survey. For many reasons detailed in Appendix D, the results of this exploratory analysis were not very satisfactory. The next step involves conducting similar analyses with post-program data from the 48-month survey to determine whether more consistent patterns of results emerge.

APPENDIX A

METHODOLOGY

In the first subsection of this appendix, we present a description of the statistical models used to examine youth's programmatic experiences. The second subsection describes the empirical specifications used to estimate the universal multinomial logistic models for the eight probabilities $Pr(e \mid X, O, A)$, $Pr(v \mid X, C, e = 1)$, $Pr(g \mid X, C, e = 1)$, $Pr(c \mid X, C, e = 1, v)$, $Pr(d > 30 \mid X, O, A, C, e = 1)$, $Pr(d > 90 \mid X, O, A, C, e = 1, v, d > 30)$, $Pr(d > 180 \mid X, O, A, C, e = 1, v, d > 90)$, and $Pr(d > 270 \mid X, O, A, C, e = 1, v, d > 180)$.

A.1 Description of Statistical Models

To examine the sequencing of youths' programmatic experiences from application through termination from the program, we utilize multinomial logistic models. The formulation of the sequential probability models used here characterizes eight key aspects of applicants' programmatic experiences:

1. The probability that an applicant arrives at a Job Corps center and enrolls in the program;

2. The likelihood of selecting one of 14 vocational training areas offered by Job Corps, including the possibility of not participating in any vocational training program, conditional on enrollment;[9]

3. The likelihood of receiving a GED while enrolled in Job Corps, conditional on enrollment;

[9]Although a substantial percentage of Job Corps students participate in more than one vocational training program, the specific vocational training area modeled here is based on the area in which the student completed the highest level of training. If the same level was attained in more than one vocational area, the vocation in which the student participated for the longest time is considered as the selected vocational training area.

4. The likelihood of completing vocational training, conditional on enrollment and the student's chosen vocational training program;

5. The likelihood of remaining in Job Corps for more than 30 paid days of enrollment, conditional on enrollment;

6. The likelihood of remaining in Job Corps for more than 90 paid days, conditional on enrollment, the student's chosen vocational training program, and remaining in Job Corps for at least 30 paid days;

7. The likelihood of remaining in Job Corps for more than 180 paid days, conditional on enrollment, the student's chosen vocational training program, and remaining in Job Corps for at least 90 paid days; and

8. The likelihood of remaining in Job Corps for more than 270 paid days, conditional on enrollment, the student's chosen vocational training program, and remaining in Job Corps for at least 180 paid days.

Together, these eight probabilities fully characterize the programmatic experiences of Job Corps applicants of interest to the current study. They also represent all of the programmatic experiences that will be needed in subsequent analyses of the impact of the program for different vocational training areas, as well as the impacts for applicants who achieve a GED, complete a vocation or remain in the program for a certain length of time.

To formalize this empirical specification, we define each of these probabilities using the following notation:

$Pr(e \mid X, O, A)$ = Probability enroll in Job Corps, given individual characteristics X, OA practices O, and OA counselor characteristics A.

$Pr(v \mid X, C, e = 1)$ = Probability participate in vocational training area v, given individual characteristics, center characteristics C, and enrollment.

$Pr(g \mid X, C, e = 1)$ = Probability receive a GED while enrolled in Job Corps, given individual characteristics, center characteristics and

enrollment.

$Pr(c \mid X, C, e = 1, v)$ = Probability complete vocational training at a completer or advanced completer level while enrolled in Job Corps, given individual characteristics, center characteristics, enrollment, and participation in vocational training area v.

$Pr(d > 30 \mid X, O, A, C, e=1)$ = Probability enrolled in Job Corps for more than 30 paid days given individual characteristics, OA practices, OA counselor characteristics, center characteristics, and enrollment.

$Pr(d > 90 \mid X, O, A, C, e=1, v, d>30)$ = Probability enrolled in Job Corps for more than 90 paid days given individual characteristics, OA practices, OA counselor characteristics, center characteristics, enrollment, participation in vocational training area, and enrollment for more than 30 paid days.

$Pr(d >180 \mid X,O,A,C,e = 1,v,d >90)$ = Probability enrolled in Job Corps for more than 180 paid days given individual characteristics, OA practices, OA counselor characteristics, center characteristics, enrollment, participation in vocational training area, and enrollment for more than 90 paid days.

$Pr(d>270 \mid X,O,A,C,e=1,v,d>180)$= Probability enrolled in Job Corps for more than 270 paid days given individual characteristics, OA practices, OA counselor characteristics, center characteristics, enrollment, participation in vocational training area, and enrollment for more than 180 paid days.

The choice of these specific eight programmatic experiences was made to address the goal of developing estimates of the impacts of key program components on post-program employment and earnings. The first step in this process requires an understanding of an applicant's decision to enroll in Job Corps and the factors that affect that decision. Conditional on enrollment, the goal of the component impact analysis is to estimate the post-program employment and earnings impacts for students who attain a GED, participate in specific vocational training programs, complete their vocation,

and for those who remain in the program for various periods of time. An analysis of the factors that affect the likelihood of each of these programmatic experiences is a necessary first step in the process of determining the impacts of these experiences on post-program outcomes.

Consistent with the empirical framework, we estimated the statistical models for the different programmatic experiences as a series of conditional probabilities. It is important to note, however, that the results of these models are used to calculate probabilities that are more meaningful to program managers. Specifically, we use the results from the various conditional models estimated above to calculate the following:

- The likelihood that an applicant arrives on center; and
- Conditional on arrival, the likelihood that a student:
    - Obtains a GED
    - Participates in a specific vocational training program area
    - Completes a vocational training program
    - Stays at least 30 paid days
    - Stays at least 90 paid days
    - Stays at least 180 paid days
    - Stays at least 270 paid days

In the main body of the report, we present the results for enrollment into Job Corps, and conditional on enrollment, we present the results for GED attainment, vocational completion, and whether the student stays at least 30, 90, and 270 paid days. The vocational choice results are presented in Appendix B. Although we calculated four different length of stay measures, we chose to present the results for 30, 90 and 270 days based on discussions with Job Corps National Office staff to focus on early dropouts, students who stay long enough to begin to receive substantial services, and long-term stayers.

A.2 Specification of Estimating Equations

Universal multinomial logit specifications are used to estimate all of the probabilities characterizing the relationships between program experiences and applicant characteristics, OA practices, OA counselor characteristics and center characteristics. Simple binary logit specifications are used to estimate the likelihood of enrolling in Job Corps, the attainment of a GED, completion of a vocational program, and the four duration of stay measures. More complex multinomial logit specifications are implemented to estimate the parameters of the probabilities that determine the likelihood a student enrolls in a specific vocational training area given the vocations available at the Job Corps center where he or she enrolled. Below we provide additional details of the models estimated for each of the different program experiences.

We parameterize the enrollment probabilities using a binary logit specification with a general form given by

$$Pr\ (\ e\ /\ X, O, A\ ) = \frac{exp^{X\ \alpha_e + O\ \beta_e + A\ \gamma_e}}{1 + exp^{X\ \alpha_e + O\ \beta_e + A\ \gamma_e}}\ ,$$

where X represents characteristics of the Job Corps applicant, O represents measures of the practices used by the OA agency that recruited the applicant, A denotes characteristics of the OA counselor who recruited the applicant, and $\acute{a}_e$, $\hat{a}_e$, and $\tilde{a}_e$ are suitably dimensioned parameter vectors. To estimate this specification, we apply a conventional maximum likelihood procedure using a sample consisting of all program group members who completed a baseline interview.

The statistical model introduced to parameterize the vocational choice probabilities is a modified version of the universal multinomial logit class. A modification to the standard multinomial logit model is required to account for the fact that not all vocational training areas are available at all Job Corps centers, thereby limiting the choices of students at such centers. Specifically, the modification needs to accommodate the

fact that some vocational choice probabilities are constrained to zero because vocational programs in that area are not offered at the student's center. We incorporate this modification via the specification:

$$Pr\ (\ v_k | X, C, e = 1\ ) = \frac{exp^{X\ \alpha_k + C\ \theta_k + \forall d_k}}{\sum_{j=1}^{14} exp^{X\ \alpha_j + C\ \theta_j + \forall d_k}},\ k = 1,\ \ldots,\ 14\ ,$$

where v_k represents participation in vocational training area k, X again represents characteristics of the Job Corps applicant, C denotes characteristics of the Job Corps center, d_k is an indicator variable defined below, and $\acute{a}_{vk}$, $\grave{e}_{vk}$ and øare suitably dimensioned parameter vectors. The only difference between this specification and a more standard multinomial logistic model is the presence of the quantity $\varnothing d_k$. The indicator variable d_k takes into account the availability of vocational training programs at specific centers such that $d_k = 1$ if vocational training area k is not available at the student's Job Corps center; otherwise, we set $d_k = 0$. Further, we set the value of øto minus infinity, which implies that $Pr(v_k \mid X, C, e = 1) = 0$ if vocational training area k is not available at the student's center. Finally, as a normalization, we constrain the coefficients of the no vocational training area option ($k = 14$) to zero (i.e., $\acute{a}_{v14} = 0$ and $\grave{e}_{v14} = 0$).[10] We apply standard maximum likelihood estimation methods to this specification using a sample of all program group members who completed a baseline interview and enrolled in Job Corps within the first 30 months after random assignment.

The specification of $Pr(g \mid X, C, e = 1)$ used in the estimation takes the form of a simple binary logit model given by

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[10] It is crucial to recognize that $d_{14} = 0$ for all centers because students can always choose to never participate in a vocational training program.

$$Pr\ (\ g\ |\ X,C,e\ =\ 1) = \frac{exp^{X\ \alpha_g + C\ \theta_g}}{1 + exp^{X\ \alpha_g + C\ \theta_g}}\ ,$$

where X represents applicant characteristics, C denotes center characteristics and $\acute{a}_g$ and $\grave{e}_g$ are suitably dimensioned parameter vectors. Estimates of $\acute{a}_g$ and $\grave{e}_g$ are obtained by applying standard maximum likelihood methods using a sample of all program group members who completed a baseline interview, enrolled in Job Corps within the first 30 months after random assignment and who did not possess a high school diploma or GED at the time of application.

The statistical model used to estimate the likelihood of completing a vocational program also uses a simple binary logit specification given by

$$Pr\ (\ c\ |\ X,C,e\ =\ 1,v\ ) = \frac{exp^{X\ \alpha_c + C\ \theta_c + v\ \pi_c}}{1 + exp^{X\ \alpha_c + C\ \theta_c + v\ \pi_c}}\ ,$$

where the variables X,C, and v are the same as above and $\acute{a}_c$, $\grave{e}_c$ and δ_c are suitably dimensioned parameter vectors. Maximum likelihood methods are used to estimate the parameters of this specification using the sample of program group members who completed a baseline interview, enrolled in Job Corps within the first 30 months after random assignment and who participated in one of the 13 specific vocational training areas, which effectively excludes students who did not participate in any vocational training program.

A simple binary logistic model is also used for the sequence of conditional probability models that characterize the likelihood applicants stay in Job Corps for a specified number of days. To present the specification of this sequence of probabilities in as concise a way as possible, let d_0 represent zero paid days of enrollment (i.e., did not enroll in Job Corps), d_1 denote 30 paid days in Job Corps, d_2 represent 90 paid days in Job Corps, d_3 denote 180 paid days in Job Corps, and d_4 represent 270 paid days in

Job Corps. Then we can express the probability that an applicant stays in Job Corps for a specified number of days as:

$$Pr\ (\ d > d_i \mid X, O, A, C, v, d > d_{i-1}\ ) = \frac{exp^{X\alpha_{di} + O\beta_{di} + A\gamma_{di} + C\theta_{di} + v\pi_{di}}}{1 + exp^{X\alpha_{di} + O\beta_{di} + A\gamma_{di} + C\theta_{di} + v\pi_{di}}},$$

where X, O, A, and C are defined as above, $\hat{a}_{di}$, $\hat{a}_{di}$, $\tilde{a}_{di}$, $\grave{e}_{di}$, and π_{di} are suitably dimensioned parameter vectors, and $d > 0$ signifies enrollment in Job Corps. In the estimation we impose the constraint that $\pi_{d1} = 0$ because students do not begin participating in their selected vocations during the first few weeks of enrollment. These four logit models are also estimated using maximum likelihood methods that are sequentially applied to smaller samples of treatment group members who completed a baseline interview and had lengths of stay in Job Corps greater than 0, 30, 90 and 180 days, respectively.

As indicated above, the conditional probabilities of vocational choice, GED attainment, vocational completion and duration of stay are all estimated conditional on enrollment in Job Corps. As such, the center characteristics that are included in these conditional models are the characteristics of the actual center that the student attended

APPENDIX B

RESULTS FOR VOCATIONAL CHOICES OF JOB CORPS STUDENTS

This appendix presents the implications of the models estimated to characterize the vocational choices of Job Corps applicants. More specifically, we present the predicted probabilities of vocational trade choices for the different student typologies described in Appendix C and for the different center typologies described in Chapter IV. Tables B-1 through B-3 show the predicted probabilities that representative students with different background characteristics will select among the vocations available to them for 16-17 year olds, 18-19 year olds, and 20-24 year olds, respectively. Tables B-4 through B-6 present the predicted probabilities that representative 16-17, 18-19, and 20-24 year old students, respectively, will select each of the available vocations for centers with different characteristics.[11] These percentages average over male and female students with the specified characteristics.

Before discussing the results, it is important to briefly describe how we characterize the vocational trade choice set available to Job Corps students. Job Corps offers vocational education in approximately 75 trades nationwide, with approximately 75 percent of the slots in eight broad occupational areas: clerical, health, carpentry, masonry, building and apartment maintenance, food service, mechanic and welding. We group the remaining slots into three general occupational areas: construction, service, and other.

The other aspect of vocational choice that we incorporate in the model concerns whether the

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[11] The percentages in the rows of these tables add to 100%, as they represent all of the vocational options available to students.

training is provided by the center or by a National Training Contractor (NTC). Although some training slots are provided by NTCs in each of these 11 occupational areas, because of sample size limitations we were only able to distinguish NTC from center-provided training in two occupational areas: construction, and building and apartment maintenance. As a result of these decisions, the results presented below assume that a student's vocational choice set is comprised of 13 possible vocational training programs: clerical, health, carpentry, masonry, NTC-provided building and apartment maintenance, non-NTC provided building and apartment maintenance, food service, mechanic, welding, NTC-provided construction, non-NTC provided construction, service, and other. Taking into account the possibility that a student will not participate in any vocational training program, the overall vocational choice set includes 14 options.

The predicted probabilities that a representative student aged 16-17 will select each of the 14 possible vocational training options available to them for the different student typologies are presented in Table B-1. As indicated in the first row, health occupations (15.7 percent) and business occupations (14.9 percent) are the most prevalent vocations among 16-17 year-old students; carpentry (7.3 percent) and building and apartment maintenance (7.1 percent) are among the least chosen vocations when they are available. The last column of the first row shows that about 12 percent of representative 16-17 year old students do not enroll in any vocations. We also find that 16-17 year-old Job Corps students who have a criminal and drug use history are much less likely to participate in business occupations and service occupations programs and more likely to participate in one of the construction-related or food service trades. Aside from the large differences due to criminal and drug use histories, we find few differences in these predicted probabilities across these typologies, implying that vocational choices are unrelated to other characteristics of the youngest students.

The vocational choices of 18-19 year old Job Corps students presented in Table B-2 follow a pattern similar to their younger counterparts. Again, health (16.1 percent) and business occupations (17.8 percent) are the most prevalent, with carpentry (4.9 percent), building and apartment maintenance provided by NTCs (7.9 percent) and other NTC provided construction-related trades (9.8 percent) among the least chosen vocations. Moreover, 18-19 year old students with criminal and drug use histories (and who are early dropouts with no work experience) are much less likely to select business or other service occupations; they are more likely to either not participate in a vocation or to select one of the construction-related trades. Finally, the results in the fifth and six rows show that students who graduated from high school before enrolling in Job Corps are much more likely to select business (21.4 percent) or health occupations (19.8 percent) over the other available vocational programs.

The results in Table B-3 suggest that the vocational choice patterns of 20-24 year-old Job Corps students are generally similar to that of their younger counterparts. However, there is a noticeable increase in the percentage of these older students who participate in the business and health occupations. In addition, older students are much less likely than 16-17 year-old students to select food services (6.6 percent). However, like their younger counterparts, 20-24 year old applicants with criminal and drug histories (with limited work experience and early high school drop outs) are less likely to select business and other service occupations and more likely to participate in construction-related trades. Finally, similar to 18-19 year old high school graduates, older high school graduates are more likely to select health occupations.

The results presented in Tables B-4 through B-6 focus on predicted probabilities of vocational trade choices by center typologies. Because these results exhibit very similar patterns across the three

age groups, we discuss the implications of changing center characteristics without distinguishing by student age. The major implications of the results in these tables are:

- The likelihood that a student will participate in construction-related trades (masonry, carpentry, welding, BAM, and other construction) is much higher at small CCC centers than at larger centers operated by private contractors. The vocational choices of students at small CCC centers reflect the greater relative availability of these trades at such centers.

- With the exception of older students (aged 20-24), expanding the number of available vocational choices at a typical center increases the percentage of students who never participate in any vocational program.

- Students likely to attend centers with strong vocational and academic programs are much less likely to not participate in any vocational program while in Job Corps than students likely to attend centers that offer somewhat weaker vocational and academic program.

Taken together, these results imply that centers offering a wide range of strong vocational and academic programs are more likely to have students that participate in a vocational training program, regardless of the specific programs available.

Table B-1

Predicted Probability of Vocational Trade Choices by Student Typologies: 16-17 Year Olds

Student Typology	Masonry	Food Service	Carpentry	Building Maintenance NTC	Building Maintenance Non-NTC[1]	Health Occupations	Business	Mechanic[1]	Service	Construction NTC	Construction Non-NTC[1]	Welding	Other[1]	No Vocation
Representative student	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Early high school dropout	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Early high school dropout, no work experience with criminal/drug history	11.1%	15.1%	7.4%	8.7%	0.0%	13.8%	6.8%	0.0%	7.9%	14.8%	0.0%	0.0%	0.0%	14.3%
Early high school dropout with more work experience	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Criminal/drug history	9.1%	15.0%	8.1%	8.6%	0.0%	16.0%	6.8%	0.0%	7.2%	16.2%	0.0%	0.0%	0.0%	12.9%
Late high school dropout with no work experience	13.0%	12.3%	6.6%	7.1%	0.0%	13.4%	14.7%	0.0%	11.6%	8.2%	0.0%	0.0%	0.0%	13.1%
Late high school dropout with work experience	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Applicant has a child	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%

[1] These vocations were not considered to be available in this typology.

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Table B-2

Predicted Probability of Vocational Trade Choices by Student Typologies: 18-19 Year Olds

Student Typology	Masonry	Food Service	Carpentry	Building Maintenance NTC	Building Maintenance Non-NTC[1]	Health Occupations	Business	Mechanic[2]	Service	Construction NTC	Construction Non-NTC[1]	Welding	Other[1]	No Vocation
Representative student	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%
Early high school dropout, no work experience	12.7%	10.3%	4.4%	7.9%	0.0%	13.8%	17.6%	0.0%	13.2%	8.8%	0.0%	0.0%	0.0%	11.3%
Early high school dropout, no work experience with criminal/drug history	11.0%	13.1%	5.0%	10.0%	0.0%	14.7%	8.4%	0.0%	9.2%	16.1%	0.0%	0.0%	0.0%	12.5%
Early high school dropout with limited work experience	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%
High school graduate	8.7%	8.2%	4.1%	6.1%	0.0%	19.8%	21.4%	0.0%	14.9%	9.6%	0.0%	0.0%	0.0%	7.1%
High school graduate with no work experience	10.6%	8.2%	3.7%	6.2%	0.0%	17.1%	21.3%	0.0%	16.3%	8.7%	0.0%	0.0%	0.0%	7.9%
Extensive work experience	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%
Applicant has a child	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%

[1] These vocations were not considered to be available in this typology.

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Table B-3

Predicted Probability of Vocational Trade Choices by Student Typologies: 20-24 Year Olds

Student Typology	Masonry	Food Service	Carpentry	Building Maintenance NTC	Building Maintenance Non-NTC[1]	Health Occupations	Business	Mechanic[1]	Service	Construction NTC	Construction Non-NTC[1]	Welding	Other[1]	No Vocation
Representative student	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%
Early high school dropout, limited work experience with criminal/drug history	6.4%	8.4%	5.8%	9.8%	0.0%	21.6%	10.2%	0.0%	7.3%	17.6%	0.0%	0.0%	0.0%	13.0%
Extensive work experience	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%
High school graduate	5.5%	6.7%	4.9%	7.7%	0.0%	26.9%	12.4%	0.0%	9.0%	17.7%	0.0%	0.0%	0.0%	9.2%
High school graduate with extensive work experience	6.1%	5.1%	4.2%	5.9%	0.0%	24.1%	24.8%	0.0%	12.5%	9.3%	0.0%	0.0%	0.0%	8.0%
Recent educational experience	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%
Applicant has a child	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%

[1] These vocations were not considered to be available in this typology.

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Table B-4

Predicted Probability of Vocational Trade Choices by Center Typologies: 16-17 Year Olds

Center Typology	Masonry	Food Service	Carpentry	Building Maintenance NTC	Building Maintenance Non-NTC	Health Occupations	Business	Mechanic[1]	Service	Construction NTC	Construction Non-NTC	Welding	Other[1]	No Vocation
Representative center	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Center with outreach admissions and placement contract	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Large contract center	7.5%	9.4%	5.1%	5.0%	0.0%	13.1%	12.1%	9.7%	8.3%	6.4%	0.0%	10.1%	4.5%	8.8%
Small CCC center	16.1%	10.2%	12.5%	5.5%	0.0%	0.0%	14.5%	0.0%	0.0%	10.2%	0.0%	18.6%	0.0%	12.4%
Strong vocational and academics	11.1%	14.2%	5.9%	4.5%	0.0%	14.8%	17.5%	0.0%	7.0%	9.3%	0.0%	0.0%	0.0%	15.6%
Weak vocational and academics	6.6%	14.0%	5.9%	3.5%	0.0%	10.7%	15.1%	0.0%	11.8%	8.5%	0.0%	0.0%	0.0%	24.0%
Only high demand vocations	0.0%	12.9%	0.0%	7.4%	0.0%	16.1%	15.3%	14.8%	11.2%	9.6%	0.0%	0.0%	0.0%	12.6%
All vocations available	15.9%	10.5%	7.7%	11.1%	0.0%	7.1%	10.0%	0.0%	11.4%	14.1%	0.0%	0.0%	0.0%	12.4%
Extensive facilities	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%
Limited facilities	10.8%	12.4%	7.3%	7.1%	0.0%	15.7%	14.9%	0.0%	10.8%	9.1%	0.0%	0.0%	0.0%	12.0%

[1] These vocations were not considered to be available in this typology.

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Table B-5

Predicted Probability of Vocational Trade Choices by Center Typologies: 18-19 Year Olds

Center Typology	Masonry	Food Service	Carpentry	Building Maintenance NTC	Building Maintenance Non-NTC[1]	Health Occupations	Business	Mechanic[1]	Service	Construction NTC	Construction Non-NTC[1]	Welding	Other[1]	No Vocation
Representative center	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%
Center with outreach admissions and placement contract	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%
Large contract center	7.7%	8.2%	3.5%	5.9%	0.0%	13.9%	15.0%	8.0%	9.8%	7.2%	0.0%	8.0%	4.7%	7.9%
Small CCC center	17.1%	9.4%	9.1%	6.7%	0.0%	0.0%	18.7%	0.0%	0.0%	12.0%	0.0%	15.5%	0.0%	11.6%
Strong vocational and academics	10.9%	12.1%	4.0%	5.1%	0.0%	15.3%	21.1%	0.0%	8.0%	10.0%	0.0%	0.0%	0.0%	13.5%
Weak vocational and academics	6.6%	12.0%	4.0%	4.0%	0.0%	11.1%	18.4%	0.0%	13.6%	9.3%	0.0%	0.0%	0.0%	21.0%
Only high demand vocations	0.0%	10.9%	0.0%	8.4%	0.0%	16.6%	18.4%	11.7%	12.8%	10.4%	0.0%	0.0%	0.0%	10.9%
All vocations available	11.7%	7.0%	8.4%	11.4%	0.0%	9.4%	12.6%	0.0%	10.2%	14.5%	0.0%	0.0%	0.0%	14.7%
Extensive facilities	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%
Limited facilities	10.5%	10.4%	4.9%	7.9%	0.0%	16.1%	17.8%	0.0%	12.2%	9.8%	0.0%	0.0%	0.0%	10.3%

[1] These vocations were not considered to be available in this typology.

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Table B-6

Predicted Probability of Vocational Trade Choices by Center Typologies: 20-24 Year Olds

Center Typology	Masonry	Food Service	Carpentry	Building Maintenance NTC	Building Maintenance Non-NTC[1]	Health Occupations	Business	Mechanic[1]	Service	Construction NTC	Construction Non-NTC[1]	Welding	Other[1]	No Vocation
Representative center	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%
Center with outreach admissions and placement contract	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%
Large contract center	5.3%	5.1%	3.6%	5.6%	0.0%	17.1%	17.6%	9.6%	8.2%	6.9%	0.0%	8.3%	3.8%	8.8%
Small CCC center	12.3%	6.1%	9.7%	6.7%	0.0%	0.0%	23.0%	0.0%	0.0%	12.0%	0.0%	16.8%	0.0%	13.5%
Strong vocational and academics	7.7%	7.6%	4.1%	5.0%	0.0%	18.9%	24.8%	0.0%	6.8%	9.8%	0.0%	0.0%	0.0%	15.2%
Weak vocational and academics	4.6%	7.6%	4.1%	3.8%	0.0%	13.9%	21.8%	0.0%	11.6%	9.0%	0.0%	0.0%	0.0%	23.6%
Only high demand vocations	0.0%	6.6%	0.0%	7.7%	0.0%	20.0%	20.9%	13.5%	10.3%	9.5%	0.0%	0.0%	0.0%	11.6%
All vocations available	0.0%	13.1%	0.0%	9.9%	0.0%	7.8%	9.3%	21.4%	10.6%	13.1%	0.0%	0.0%	0.0%	14.8%
Extensive facilities	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%
Limited facilities	7.5%	6.6%	5.1%	7.8%	0.0%	20.1%	21.1%	0.0%	10.4%	9.7%	0.0%	0.0%	0.0%	11.7%

[1] These vocations were not considered to be available in this typology.

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Appendix C

RESULTS FOR APPLICANT TYPOLOGIES

A. INTRODUCTION

This appendix summarizes the empirical results relating various applicant and student personal characteristics to key programmatic experiences: arrival at a center, GED attainment, vocational program completion, and enrollment in Job Corps for at least 30, 90 and 270 paid days. We first describe the specific applicant typologies that we developed to illustrate the estimated empirical relationships between applicant characteristics and programmatic experiences. We then present results for the different programmatic experiences for several applicant typologies for the three age groups of interest (16-17, 18-19 and 20-24). The appendix concludes with a summary of the main findings that broadly apply across all age groups.

B. APPLICANT TYPOLOGIES

In Chapter II, we described the typical applicant characteristics included in the representative cases for each of three age groups. The representative characteristics were selected to reflect the primary differences in education and employment backgrounds among applicants of different ages. For example, the representative case for younger applicants has fewer years of schooling and less work experience than the representative case for older applicants. Other characteristics that do not typically vary significantly by age were defined similarly in the representative cases for all age groups. For example, we assume the representative case for each of the age groups does not have any criminal or drug history, is in good health, and has similar knowledge and expectations of the program.

Below, we briefly describe the applicant characteristics of the representative case and the different typologies used to illustrate the role of various personal background characteristics for each age group. In addition to various personal background characteristics, we also consider the proximity of applicants to their likely Job Corps center. Geographic proximity is taking on a higher level of importance under the Workforce Investment Act of 1998 as this legislation emphasizes that applicants should, all else being equal, attend a center near their homes. To illustrate the potential relationship between applicants distance to their likely Job Corps center, we developed two geographic proximity typologies that are the same for all three age groups. These two typologies are described at the end of this section.

1. 16-17 year-old Typologies

Exhibit C-1 depicts the characteristics of the representative 16-17 year-old applicant and summarizes the key differences in the characteristics that define the applicant typologies we created to illustrate the relationships between personal characteristics and applicants' programmatic experiences. As shown in Column (1), the representative 16-17 year-old applicant was in school for 9 months during the prior year, completed 9th grade, and had relatively little work experience (i.e., worked only 2 months in the prior year with total earnings of $500). In addition, our representative 16-17 year-old applicant also is assumed to not have a child and to not have a history of drug use or criminal activities. Other features of the representative applicant in this age group were presented in Chapter II.

The other typologies described in Exhibit C-1 change one or more personal characteristics of applicants in four broad categories: (1) the presence of a child; (2) educational experiences; (3) work experience and earnings; and, (4) criminal/drug history. Cells in these categories in subsequent columns that are blank indicate that the same value of the characteristic is used as in the representative case. The first applicant typology changes the presence of a child. Specifically, Column (2) defines a typology that

is identical to the representative case except that the applicant has a child. As such, a comparison of the programmatic experiences of applicants across these two typologies enables us to illustrate the relationship between having a child and Job Corps programmatic experiences.

The next set of typologies varies educational attainment, as well as participation in educational activities and the amount of work experience in the prior year.[12] Specifically, Column (3) depicts a 16-17 year-old applicant who has dropped out of school after only completing the 7th grade and, as such, was not enrolled in school in the prior year. The typology in Column (4) further modifies the representative case to change work experiences in the prior year (worked 6 months with earnings of $3,000), as well as the changes in educational experiences introduced in Column (3). A comparison of the predicted probabilities across these typologies illustrates the extent to which these characteristics are associated with different programmatic experiences for 16-17 year-old applicants.

The next two columns in Exhibit C-1 characterize applicants who drop out of high school later than our representative 16-17 year-old applicant and who have different work experiences in the prior year. Specifically, the fourth typology, shown in Column (5), corresponds to a 16-17 year-old applicant who dropped out of high school after completing 11th grade with no prior work experience. Column (6) defines a fifth typology in which applicants are again assumed to complete the 11th grade before dropping out of school but they are also assumed to have a more extensive amount of work experience in the prior year (worked 6 months with earnings of $3,000). Hence, a comparison of programmatic experiences for the representative case in Column (1), which is assumed to have less education and limited previous work experience, with the experiences for applicants with additional years of high

[12] In creating the employment and school participation measures used in the empirical analyses, we defined the "prior year" as the 12-month period before random assignment. However, as random assignment typically occurred

school and work experiences illustrates the relationships between experiences and these personal characteristics of 16-17 year-old applicants. It should also be noted that a comparison of the programmatic experiences among the applicant typologies defined in Columns (5) and (6) isolates the relationships between programmatic experiences and work experience among late high school dropouts.

The final two columns in Exhibit C-1 create typologies for applicants that come from what can be considered relatively more disadvantaged backgrounds. Specifically, Column (7) depicts an applicant typology that is identical to the representative case except that the applicant has a criminal and drug history. The typology shown in Column (8) describes applicants with other characteristics that can be considered to be associated with a more disadvantaged background. This last typology changes the characteristics of the typology in Column (7) such that it characterizes 16-17 year-old applicants who dropped out of school after completing only the 7th grade and with no prior work experience. A comparison of applicants' programmatic experiences across these typologies with the experiences of our representative 16-17 year-old applicant in Column (1) illustrates the extent to which applicants with progressively more disadvantaged backgrounds have different programmatic experiences.

2. 18-19 year-old Typologies

Exhibit C-2 summarizes the combination of various characteristics used to define our representative 18-19 year-old applicant as well as the specific typologies created to illustrate the relationships between these personal characteristics and the programmatic experiences of different types of 18-19 year-old applicants. Column (1) summarizes our representative 18-19 year-old applicants who are assumed to have more work experience but less recent participation in education programs than our representative

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within a few days of when the youth completed his or her Job Corps application, we will refer to the prior year as the 12-month period before application.

16-17 year-old applicants described above. More specifically, we assume that the representative applicant aged 18-19 has completed the 11th grade, worked 6 months in the prior year with earnings of $3,000, does not have a child and has no criminal/drug history.

The first applicant typology shown in Column (2) alters the assumption regarding the presence of an applicant's child. Specifically, a comparison of the programmatic experiences for our representative applicants and this applicant typology, which are shown in the first and second columns of Exhibit C-2, illustrates the relationship between having a child for 18-19 year-old Job Corps applicants and their Job Corps programmatic experiences.

The next typology shown in Column (3) alters the amount of work experience in the prior year. Specifically, this typology depicts applicants who are similar to our representative case except that instead of working 6 months in the prior year with earnings of $3,000 we increase their pre-application work experience to 12 months of work in the prior year with $12,000 in earnings. Comparing the programmatic experiences of applicants in this typology with the experiences of our representative case shown in Column (1) illustrates the extent to which additional years of employment are associated with programmatic experiences for this age group.

The next two typologies shown in Exhibit 3-2 depict applicants with fewer years of formal education and different amounts of work experience in the prior year. Specifically, the typology presented in Column (4) depicts 18-19 year-old applicants who dropped out of high school after completing the 9th grade and with no prior work experience. The typology described in Column (5) represents applicants who also dropped out of school after completing the 9th grade but with a limited amount of work experience (worked 2 months in prior year with earnings of $500). Results for these two typologies illustrate the extent to which programmatic experiences differ for 18-19 year-old applicants who drop

out of school earlier and have less work experience compared to our representative applicants in this age range.

Columns (6) and (7) in Exhibit C-2 represent applicants with more formal education and different levels of work experience. The typology shown in Column (6) represents applicants who completed high school (completed the 12th grade) but otherwise have the same characteristics as our representative 18-19 year-old applicants. Column (7) depicts applicants who completed high school but with no prior work experience. Comparing results across these typologies will illustrate the relationships between high school graduation and different levels of work experience and programmatic experiences.

Finally, the last column in Exhibit C-2 corresponds to a typology for applicants in this age group who come from more disadvantaged backgrounds. Specifically, Column (8) depicts applicants who not only dropped out of school early (completed only the 9th grade) and with no prior work experience, but who have a history of criminal activities and drug use. This typology enables us to assess any differences in programmatic experiences that are related to educational attainment, work experiences and a criminal/drug history. Together with the results for the typologies in Columns (1) and (4), this typology illustrates the extent to which programmatic experiences are related to these personal characteristics.

3. 20-24 year-old Applicants

Exhibit C-3 summarizes the eight typologies developed for 20-24 year-old applicants and describes the key differences in these characteristics that define the specific typology. The first column restates the key characteristics that describe our representative case for youth aged 20-24, which consists of the same characteristics as that for 18-19 year-olds except for their recent participation in educational programs. Specifically, the one difference in the representative case between the two older age groups

is that youth aged 20-24 are assumed to not have been enrolled in school in the last year, whereas the representative applicant aged 18-19 is assumed to have been in school for 3 months during the prior year.

As before, the applicant typology for this age group shown in Column (2) changes only a single characteristic, namely whether the applicant has a child. Comparing results for this typology with the results for our representative 20-24 year-old applicant illustrates the relationships between having a child and programmatic experiences.

The typology shown in Column (3) alters the recent educational experiences of this oldest group of Job Corps applicants and assumes that applicants of this type were enrolled in school for 9 months in the year prior to applying to Job Corps. We can compare the programmatic experiences of this typology with the experiences of the representative case in Column (1) that was not enrolled in school at all in the prior year to illustrate the relationship between recent educational attainment and programmatic experiences.

The next two columns of Exhibit C-3 present applicant typologies that vary both the educational attainment and work experience of 20-24 year-old applicants. The typology shown in Column (4) depicts applicants who graduated from high school and had work experiences in the prior year that are identical to the representative case. Column (5) defines a typology that modifies the representative case by assuming applicants of this type are high school graduates with extensive work experience (worked 12 months in the prior year and earned $12,000). Comparing the programmatic experiences experienced by these applicant typologies with the experiences of the representative case in Column (1) illustrates the extent to which programmatic experiences are associated with high school graduation and different levels of work experience among 20-24 year-old applicants.

The typology shown in Column (6) alters the amount of work experience in the prior year. Specifically, the characteristics of applicants under this typology are the same as our representative case except these applicants are assumed to have more extensive work experience (worked 12 months in prior year with $12,000 in earnings). A comparison of our representative applicants' programmatic experiences with the experiences of applicants of this type isolates the relationship between these programmatic experiences and prior work experience for this oldest group of applicants.

Finally, the last two columns in Exhibit C-3 depict 20-24 year-old applicants who come from more disadvantaged backgrounds. Specifically, Column (7) defines a typology for applicants who dropped out of high school early (completed only the 9th grade education) and have only a limited amount of work experience (worked 2 months in prior year and earned $500). A more disadvantaged group of 20-24 year-old applicants is described in Column (8). This typology is identical to the applicants depicted in Column (7) except that the applicant typology in Column (8) also possesses a criminal/drug history. A comparison of results for the last two typologies illustrates the extent to which differences in programmatic experiences are related to educational attainment, differences in work experience and any criminal/drug history.

Exhibit C-1

Summary of Applicant Typologies: 16-17 year-olds

	Applicant Typology							
	(1) Representative Applicant	(2) Applicant has a child	(3) Early High School Dropout	(4) Early High School Dropout with more Work Experience	(5) Late High School Dropout with No Work Experience	(6) Late High School Dropout with Work Experience	(7) Criminal/ Drug History	(8) Early High School Dropout, No Work Experience, with Criminal/ Drug History
Applicant has a child	No	Yes						
Education	9th grade		7th grade	7th grade	11th grade	11th grade		7th grade
Enrollment in Educational Program in Past Year	Enrolled 9 months in past year		None	None				None
Work Experience	Not working at application, Worked 2 months in past year			Working at application, Worked 6 months in last year	No prior work experience	Working at application, Worked 6 months in last year		No prior work experience
Earnings	$500			$3,000	$0	$3,000		$0
Criminal/ Drug History	No							Yes

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Exhibit C-2

Summary of Applicant Typologies: 18-19 year-olds

	Applicant Typology							
	(1) Representative Applicant	(2) Applicant has a child	(3) Extensive Work Experience	(4) Early High School Dropout, No Work Experience	(5) Early High School Dropout with Limited Work Experience	(6) High School Graduate	(7) High School Graduate with no Work Experience	(8) Early High School Dropout, No Work Experience, with Criminal/ Drug History
Applicant has a child	No	Yes						
Education	11th grade			9th grade	9th grade	12th grade	12th grade	9th grade
Enrollment in Educational Programs	Enrolled 3 months in past year			None	None	Enrolled 9 months in past year	Enrolled 9 months in past year	None
Work Experience	Not working at application, Worked 6 months in past year		Working at application, Worked 12 months in last year	No prior work experience	Not working at application, Worked 2 months in past year		No prior work experience	No prior work experience
Earnings	$3,000		$12,000	$0	$500		$0	$0
Criminal/Drug History	No							Yes

Exhibit C-3

Summary of Applicant Typologies: 20-24 year-olds

	Applicant Typology						
	(1) Representative Applicant	(2) Applicant has a child	(3) Recent Educational Experience	(4) High School Graduate	(5) High School Graduate with Extensive Work Experience	(6) Extensive Work Experience	(7) Early High School Dropout, Poor Work Experience with Criminal/ Drug History
Applicant has a child	No	Yes					
Education	11th grade			12th grade	12th grade		9th grade
Enrollment in Educational Program in Past Year	None		Enrolled 9 months in past year				
Work Experience	Not working at application, Worked 6 months in past year				Working at application, Worked 12 months in last year	Working at application, Worked 12 months in last year	Not working at application, worked 2 months in past year
Earnings in Past Year	$3,000				$12,000	$12,000	$500
Criminal/ Drug History	No						Yes

4. Geographic Proximity Typologies

A potentially important aspect of an applicant's background concerns the geographic proximity of the applicant to the likely center. As such, in this appendix , we not only illustrate the relationships between personal background characteristics and programmatic experiences, we also specify alternative typologies to examine the association between applicants' proximity to their likely center and programmatic experiences. However, unlike the other background characteristics that differed by age, we apply the same geographic proximity typologies to each applicant age group.

The geographic typologies are developed only for applicants who are likely to be residential students and are based on distance to the likely center as well as the type of city in which they live at the time of application. As indicated in Exhibit C-4, the first typology assumes that our representative applicant lives 25 miles from the likely center and resides within a Standard Metropolitan Area (SMA). The second typology extends the distance to the likely center to 200 miles and assumes that applicants live in a rural area. The third typology also assumes that applicants live 200 miles from the likely center but that they reside within an SMA. Thus, by comparing programmatic experiences for the first and third typologies we can assess the extent to which additional distance from the likely center is related to the programmatic experiences of likely residential students. Moreover, by comparing the second and third typologies we can assess the strength of any association between programmatic experiences and residing in large metropolitan areas versus coming from rural areas.

Exhibit C-4

Summary of Applicant Geographic Proximity Typologies

	Applicant Proximity Typology		
	(1) 25 miles from center	(2) 200 miles from center in rural area	(3) 200 miles from center not in SMA
Miles from Center	25 miles from center	200 miles from center	200 miles from center
Area	In Standard Metropolitan Area	Rural	Not in Standard Metropolitan Area

C. RESULTS

In this section, we present results describing how the major programmatic experiences differ across these key applicant characteristics. Specifically, we compare applicants' arrival experiences and students'programmatic experiences across the various personal background and geographic typologies described above.

The results for all age groups are summarized in Tables C-1 through C-3. Table C-1 summarizes the role of having a child by gender and likely residential status. Table C-2 summarizes all of the applicant typologies by age group. Finally, Table C-3 summarizes the geographic typologies by gender and age. The results described below are organized by applicant age group.

1. 16-17 Year-Old Applicants

Overall, the three tables for 16-17 year-old applicants indicate that personal characteristics are significantly related to the likelihood of having specific programmatic experiences. Notable findings of interest include:

- Job Corps students are much less likely to stay in the program if they have a child. The reduction in the likelihood of staying in the program is significant for both male and female

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students with a child, but is particularly acute for residential females. For example, 15 percent of residential female students without a child are expected to stay 270 days, as compared to 9 percent of residential female students with a child.

- The programmatic experiences of applicants who dropped out of school early (after completing only the 7th grade) are substantially different from the experiences of our representative 16-17 year-old applicants. Approximately 80 percent of representative applicants arrive on center, compared to about 71 percent of applicants who dropped out of school early. Further, Job Corps students who are early high school dropouts are less likely to attain a GED (26 percent compared to 16 percent) and less likely to stay on center. However, early dropouts are equally likely as the representative student to complete their vocational training programs.

- More extensive work experiences play a role in offsetting some of the reductions in programmatic accomplishments for early high school dropouts. Specifically, early high school dropouts with 6 months of work experience and $3,000 in earnings in the prior year are expected to have programmatic experiences that are generally similar to the experiences of the representative student. The only exception is GED attainment, which is not surprising, since the representative student has completed more formal education and is closer to obtaining the GED than a youth that dropped out early.

- Applicants aged 16-17 with additional years of education beyond 9th grade do not have significantly better programmatic experiences than representative 16-17 year-old students. More specifically, late high school dropouts (11th grade education) have very similar experiences compared to the representative student with a 9th grade education. Further, late high school dropouts with some work experience have very similar programmatic experiences except for GED attainment. Students with work experience and an 11th grade education are more likely to attain a GED compared to representative applicants and to students who are late high school dropouts but with no work experience.

- Students with prior involvement in the juvenile justice system and with a history of drug use have significantly poorer programmatic experiences compared to other similar 16-17 year-old applicants. That is, among these youngest students, those with criminal and drug histories are much less likely to have positive programmatic experiences compared to the representative student. Moreover, very disadvantaged students – early high school dropouts, with no work experience, and with criminal/drug histories – can expect the least positive programmatic experiences. For example, the most disadvantaged applicants have predicted arrival rates of 53 percent, compared to 80 percent for the representative applicant and 70 percent for the representative applicant with only a criminal/drug history. The lower arrival rates of the very disadvantaged group translate into consistently lower lengths of stay and lower student programmatic experiences.

- Finally, our results indicate that applicants' geographic proximity to the likely center is related to their likelihood of arrival on center. Specifically, applicants coming from greater distances are

slightly more likely to arrive on center than applicants residing within 25 miles from the likely center. However, the length of stay on center appears to be unrelated to applicants' geographic proximity.

2. 18-19 year-old Applicants

Tables C-1 through C-3 provide a similar set of predicted probabilities for 18-19 year-old applicants. Notable findings from our analysis include:

- Similar to the younger age groups, both male and female 18-19 year-old students with a child appear to experience significantly shorter stays on center than the representative student.

- Students in this age group who drop out of high school earlier than others with similar characteristics are much less likely to attain a GED in Job Corps. Moreover, although not nearly as substantial, these early dropouts also experience lower vocational completion rates and somewhat shorter lengths of stay. Specifically, 32 percent of representative 18-19 year-old students attain a GED compared to 11 percent of similar students who are early high school dropouts without any work experience, and 18 percent who are early high school dropouts with only limited work experience. The addition of limited work experience among students aged 18-19 who dropped out early does little to increase positive programmatic experiences.

- As shown in Table C-2, 18-19 year-old applicants with a high school credential at application have quite different programmatic experiences compared to similar applicants who dropped out after completing the 11th grade. For example, about 85 percent of applicants with a high school diploma (regardless of work experience) are expected to arrive on center, compared to 71 percent of representative applicants. In addition, students with high school diplomas are much more likely to complete vocational training. It is important to note that even high school graduates who lack any work experience also have these higher levels of programmatic experiences. Specifically, students who are high school graduates have very similar programmatic experiences regardless of work experience level. In fact, high school graduates with no work experience are more likely to stay for longer periods than other groups.

- Among 18-19 year-old students, those with extensive work experience achieve slightly better GED and vocational accomplishments while at the same time staying for shorter periods in the program.

- The most disadvantaged applicants in this age group – those early dropouts with no work experience and with prior criminal and drug histories – are less likely to have positive programmatic experiences compared to all other types of applicants. Specifically, these severely disadvantaged applicants have lower predicted arrival rates, once on center these students experience much lower rates of GED attainment and vocational completion, and significantly lower lengths of stay.

- For both male and female applicants in this age group, those living further from their likely center are more likely to arrive. In contrast to younger applicants, 18-19 year-old applicants living closer to the likely center are more likely to stay longer periods at the center compared to applicants living greater distances from the center.

2. 20-24 Year-Old Applicants

The same set of results for applicants' aged 20-24 is summarized in Tables C-1 through C-3.

Notable findings include:

- Female students in this age group (regardless of residential status) with a child are less likely to have positive programmatic experiences compared to their counterparts who do not have a child. Specifically, those with a child are somewhat less likely to arrive on center, attain a GED, and complete their vocation. Moreover, in general, they are also less likely to stay on center – particularly longer periods of time.

- Among male students, those who are likely to be in a residential status with a child have more positive programmatic experiences compared to their counterparts without a child. In contrast, males who are likely to be non-residential students with a child are less likely to arrive and to stay on center compared to male non-residential students without a child. These differences in programmatic experiences by gender and likely residential status may reflect differences in child care arrangements, as female students are more likely than males to have the child on center.

- The results presented here show a significant relationship between recent participation in education and/or schooling programs and the programmatic experiences of 20-24 year-old applicants. For example, applicants with recent educational experiences are somewhat more likely to arrive on center and once on center, significantly more likely to stay longer, achieve their GED, and complete their vocation compared to our representative applicants/students in this age range who were not enrolled in school in the prior year.

- Among this older age group, applicants with a high school diploma at entry are less likely to arrive on center but equally likely to attain a GED, complete their vocational training, and stay on center.

- The relationship between more extensive work experience and programmatic experiences appears to be weaker for 20-24 year-old applicants than for 18-19 year-old applicants. Specifically, our representative 20-24 year-old applicants and their similar counterparts with more extensive work experience in the prior year have very similar programmatic experiences. This pattern holds for arrival rates, GED attainment, vocational completion and length of stay.

- Similar to the other age groups, 20-24 year-old applicants with more disadvantaged backgrounds are much less likely to have positive programmatic experiences. For example, while about 67 percent of our representative applicants in this age group arrive on center, only 57 percent of applicants who are early high school dropouts with limited work experience and a criminal/drug history arrive on center. The differences in vocational completion and length of stay are even larger among the subset of applicants that arrive on center. One exception to this is in the probability of GED attainment where students from the most disadvantaged backgrounds have a slightly higher probability of GED attainment relative to representative applicants.

- Residential applicants (20-24) who live 200 miles from their likely center are much more likely than residential applicants residing within 25 miles from their likely center to arrive and stay in Job Corps longer. This is true for both male and female applicants.

D. SUMMARY

Looking across the results for these three age groups, several common patterns emerge concerning the relationships between various personal characteristics and programmatic experiences. The most notable of these patterns are:

- Programmatic experiences differ more across female students with and without a child compared to male applicants with similar characteristics. Specifically, programmatic experiences are substantially lower for female applicants with a child relative to those without a child, whereas the negative differences for males are less pronounced. However, even for females, the differences in GED attainment and vocational completion for those with a child appear to be relatively small.

- Prior education plays a key role in the programmatic experiences of all student groups. Specifically, students who drop out of school early experience lower programmatic achievements and length of stay compared to their counterparts who completed more years of formal education. Not surprisingly, the largest differences in experiences emerge for early dropouts in terms of the reduced likelihood of obtaining a GED. In addition, having a high school diploma at application is strongly associated with better programmatic experiences for 18-19 year-old students. However, among 20-24 year-old students who have been away from school for a considerable period, having completed high school appears to be only weakly related to programmatic experiences. Recent educational experiences are significantly associated with improved programmatic experiences in all areas among the older student group.

- In general, additional work experience prior to entering Job Corps is associated with improved programmatic experiences. There is evidence that more extensive work experiences play a role in offsetting some of the reductions in programmatic experiences for early school dropouts among 16-17 year-old applicants. In addition, older students with extensive work experience have similar or better programmatic experiences despite shorter periods on center.

- For all three age groups, students from very disadvantaged backgrounds – defined as early dropouts with no work experience and with a criminal/drug history – are the least likely group to have positive programmatic experiences. Although this pattern is very strong and consistent across all age groups, the youngest Job Corps applicants (16-17 years old) are particularly handicapped by the lack of education, no work experience and a criminal and drug history. Young applicants with these characteristics are much less likely than the representative case to arrive on center (53 percent, as compared to 80 percent) and once on center, only about 6 percent of these students complete their GED and 14 percent complete vocational training. The low measured outcomes are in part due to their very short lengths of stay on center.

- An applicant's geographic proximity to the likely Job Corps center appears to be related to programmatic experiences, especially for the older age groups. For all three age groups, likely residential applicants that come from a longer distance (200 miles), are much more likely to arrive on center. However, the length of time spent on center after arrival varies by student age. Among the youngest age group, there are very small differences in length of stay within gender by distance to center. For 18-19 year-old applicants, those living further from the center have shorter stays; and, in contrast, among the oldest age group (20-24), applicants living further from the center have much longer stays on center compared to applicants located 25 miles from the center.

Table C-1. Predicted Probability of Arrival and Paid Days on Center: Role of Having a Child by Age Group[1]

	Arrival	Conditional Upon Arrival		
		30 Paid Days	90 Paid Days	270 Paid Days
Age 16-17				
Female residential	79.7	82.6	59.6	15.7
Female residential with child	77.9	74.2	48.3	8.8
Female non-residential	74.9	75.1	50.3	22.7
Female non-residential with child	82.8	79.6	50.8	18.0
Male residential	80.3	79.4	46.0	15.2
Male residential with child	83.4	77.7	46.1	11.0
Male non-residential	81.2	82.6	34.4	18.1
Male non-residential with child	81.2	82.6	34.4	14.7
Age 18-19				
Female residential	68.3	86.7	70.2	30.7
Female residential with child	64.7	73.7	39.0	13.4
Female non-residential	51.9	84.3	50.9	13.6
Female non-residential with child	57.9	80.4	50.0	9.6
Male residential	76.3	86.7	70.3	35.0
Male residential with child	73.8	73.1	55.0	22.1
Male non-residential	58.6	88.2	67.0	22.1
Male non-residential with child	50.7	85.1	65.4	15.7
Age 20-24				
Female residential	69.7	82.0	62.9	31.3
Female residential with child	64.1	86.0	54.3	26.8
Female non-residential	50.5	80.7	65.7	35.7
Female non-residential with child	50.0	70.0	56.5	24.1
Male residential	72.2	81.5	59.4	25.3
Male residential with child	73.8	83.8	63.6	26.9
Male non-residential	55.1	79.1	55.6	26.4
Male non-residential with child	49.1	73.8	51.8	18.6

[1]GED Attainment and vocational completion are not included because presence of a child is not in the models for these outcomes.

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Table C-2. Predicted Probability of Arrival, GED Attainment, Vocational Completion, and Paid Days on Center: Applicant Typologies by Age Group

	Arrival	Conditional Upon Arrival				
		GED Attainment	Vocational Completion	30 Paid Days	90 Paid Days	270 Paid Days
Age 16-17						
Representative applicant	79.8	25.9	40.4	80.3	50.1	16.0
Applicant has a child	81.5	25.9	40.4	76.9	46.7	10.8
Early high school dropout	70.7	15.7	39.0	72.3	43.9	13.6
Early high school dropout, with more work experience	77.9	16.6	40.6	76.8	51.1	22.4
Late high school dropout with no work experience	77.8	29.2	41.2	81.1	56.0	20.5
Late high school dropout with work experience	79.4	33.7	40.4	78.2	53.0	17.1
Criminal/drug history	69.9	24.4	28.7	79.6	38.1	6.6
Early high school dropout, no work experience, with criminal/drug history	53.1	12.1	28.1	75.8	38.5	7.2
Age 18-19						
Representative applicant	70.5	32.4	47.6	86.6	68.2	30.3
Applicant has a child	68.2	32.4	47.6	74.6	49.7	17.5
Extensive work experience	64.3	36.1	48.1	77.9	56.9	29.1
Early high school dropout, no work experience	70.7	11.4	43.5	80.3	63.3	35.7
Early high school dropout with limited work experience	72.2	18.3	41.4	78.3	56.5	23.8
High school graduate	85.5	N/A	65.4	81.4	64.4	31.3
High school graduate with no work experience	85.4	N/A	67.3	80.3	66.5	43.2
Early high school dropout, no work experience, with criminal/drug history	64.4	11.3	33.0	73.0	53.8	21.3
Age 20-24						
Representative applicant	67.0	33.2	54.2	81.4	61.2	28.6
Applicant has a child	65.9	33.2	54.2	81.6	59.5	26.1
Recent educational experience	69.4	40.6	66.6	89.5	68.6	47.8
High school graduate	56.0	38.7	53.9	81.7	56.9	32.8
High school graduate with extensive work experience	49.8	30.5	71.2	84.6	68.0	39.7
Extensive work experience	66.3	29.3	59.0	81.5	66.9	29.3
Early high school dropout, no work experience, with criminal/drug history	56.8	37.7	40.4	62.2	37.7	9.2

Table C-3. Predicted Probability of Arrival and Paid Days on Center: Role of Geographic Proximity by Age Group[1]

	Arrival	Conditional Upon Arrival		
		30 Paid Days	90 Paid Days	270 Paid Days
Age 16-17				
Female residential lives 25 miles from center	79.7	82.6	59.6	15.7
Female residential lives 200 miles from center – rural area	85.4	81.1	59.5	15.1
Female residential lives 200 miles from center –in MSA	82.9	81.1	59.5	15.1
Male residential lives 25 miles from center	80.3	79.4	46.0	15.2
Male residential lives 200 miles from center – rural area	85.8	77.7	46.1	14.9
Male residential lives 200 miles from center – in MSA	83.4	77.7	46.1	14.9
Age 18-19				
Female residential lives 25 miles from center	68.3	86.7	70.2	30.7
Female residential lives 200 miles from center – rural area	74.1	78.0	57.9	25.4
Female residential lives 200 miles from center –in MSA	72.2	78.0	57.9	25.4
Male residential lives 25 miles from center	76.3	86.7	70.3	35.0
Male residential lives 200 miles from center – rural area	81.0	78.1	58.0	29.3
Male residential lives 200 miles from center – in MSA	79.5	78.1	58.0	29.3
Age 20-24				
Female residential lives 25 miles from center	69.7	82.0	62.9	31.3
Female residential lives 200 miles from center – rural area	75.0	87.8	69.8	42.3
Female residential lives 200 miles from center – in MSA	76.0	87.8	69.8	42.3
Male residential lives 25 miles from center	72.2	81.5	59.4	25.3
Male residential lives 200 miles from center – rural area	77.1	87.4	66.4	35.7
Male residential lives 200 miles from center – in MSA	78.1	87.4	66.4	35.7

[1]GED Attainment and vocational completion are not included because presence of a child is not in the models for these outcomes.

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APPENDIX D

ESTIMATING IMPACTS FOR DIFFERENT JOB CORPS PROGRAM EXPERIENCES

One of the primary objectives of the National Job Corps Study is to estimate the impact of Job Corps for applicants with different program experiences, including participation in specific vocational training areas, completion of academic and vocational programs, and enrollment for specified lengths of time. However, unlike the other elements of the impact analysis that can fully exploit the advantages of the random assignment of eligible applicants and estimate impacts as the simple difference in outcomes between the program and control groups, estimation of the impacts of different programmatic experiences cannot rely solely on the random assignment design. This is because the random assignment of Job Corps applicants to program and control group status was made at the time of eligibility determination and all subsequent programmatic outcomes of program group members, such as enrollment in a particular vocational training area and the number of days enrolled at a Job Corps center, partly reflect the specific choices of an applicant, as well as program and other factors. As a result, to address this objective of the evaluation we must rely on non-experimental methods to estimate the impacts of programmatic experiences on the labor market and other related outcomes of Job Corps students.

Estimating program impacts using non-experimental methods is widely recognized as a scientific challenge and much debate surrounds whether the statistical models used in these methods yield informative impact estimates. Many research studies comparing experimental and non-experimentally derived estimates of program impacts for the same program have found that the standard statistical models used to derive non-experimental impact estimates have yielded unreliable results. However, several recent studies have

yielded more promising results for non-experimental impact estimates under circumstances where the statistical models are subject to specification tests.

This appendix presents our preliminary examination of the statistical models we proposed to use to estimate the impacts of different program experiences for Job Corps students that are based on the empirical results described elsewhere in this report. The first section briefly describes the set of statistical models we are examining to derive estimated impacts of different programmatic experiences. The second section discusses our approach to examining the different specifications described in the preceding section and the assessment of these specifications for estimating program impacts. The next section presents some preliminary results from the estimation of the impact of enrollment in Job Corps on employment and earnings 30 months after application to the program. The appendix concludes by describing the next steps we will follow to examine the feasibility of estimating the impacts of the different program experiences using all of the data collected up through the interviews conducted 48 months after application.

A. METHODS FOR ESTIMATING IMPACTS FOR PROGRAM EXPERIENCES

It is of great policy interest to estimate the impact of the Job Corps program on the youth who have different program experiences and those who achieve specific programmatic outcomes. While impacts may vary across many dimensions of program experiences, our primary interest focuses on the estimated impacts of five programmatic experiences:

1. Enrollment in Job Corps by eligible applicants;
2. Participation in particular vocational training areas;
3. Completion of a vocational training program;
4. Achievement of a GED among enrollees without a high school credential; and,

5. Enrollment in the program for a specified length of time, such as 30, 90 or 270 days.

Reliably measuring the impact of Job Corps for eligible applicants with these experiences presents a formidable challenge. Moreover, as all subsequent program experiences and achievements are dependent upon enrollment in the program, it is critical to obtain reliable estimates of the impacts for enrollees in order to estimate impacts for the other four categories of program experiences.

The underlying experimental design of the evaluation provides reliable estimates of the overall impact of Job Corps, as well as the impacts for subgroups of eligible applicants that can, for all practical purposes, be identified prior to random assignment.[13] However, reliable estimation of the impacts of Job Corps for subgroups of eligible applicants that can not realistically be identified before randomization, such as those defined in terms of their subsequent program experiences, is complicated by two factors.

1. The inability to determine the specific control group members who would have program experiences that are identical to the experiences of applicants who are offered the opportunity to participate in Job Corps.

2. The individuals who choose to have a particular set of program experiences are those most likely to benefit from these experiences.

This second complicating factor is often referred to as the *selection problem*.

[13] For example, because the residential and nonresidential components of Job Corps serve applicants with quite distinctive characteristics, it was possible to reliably determine the applicants who would attend Job Corps as a residential or nonresidential student prior to randomization. This ability permits the estimation of impacts for these two program components using comparisons across program and control groups for those most likely to enroll in a residential slot and those most likely to enroll in a nonresidential slot.

As a consequence of these two complicating factors the estimation of program impacts for the subgroups of eligible applicants identified above must rely on one or more assumptions regarding either the outcomes for program group members who do not have specific programmatic experiences or the behavioral processes that jointly determine program experiences and subsequent outcomes. For example, the estimation of impacts for Job Corps enrollees can be derived by assuming the program has no impact on the outcomes of eligible applicants who do not enroll in the program or by assuming the decision making process for eligible applicants who decide to enroll in the program can be reliably summarized by a statistical model that depends on both individual and program characteristics. The former assumption is widely used and generally accepted because of the intuitive appeal of the premise underlying this assumption.[14] Alternatively, the estimation of program impacts for the subset of applicants who enroll can also be derived by adopting a specific statistical model summarizing the factors that systematically determine which applicants enroll and which applicants do not.

While invoking an assumption about the outcomes for non-enrollees has an intuitive appeal, invoking similar assumptions about the outcomes or impacts of the program on other subgroups with specific program experiences is much less credible. For example, while it is credible to assume the program has no impact on applicants who do not enroll, it is difficult to extend this assumption for applicants who enroll but stay in the program for less than 30 days. Because of the lack of credible assumptions, the estimation of distinct impacts for the other identified subgroups will rely solely on the specification of a statistical model and a set of assumptions that permit the identification of the variation in impacts across

[14] This assumption underlies the estimated impacts per participant of Job Corps over 30 months as reported in Schochet, Burghardt, and Glazerman (2000).

subgroups of eligible applicants that are distinguished by participation in specific vocational training areas, vocational completion, GED attainment, and different lengths of stay.

There are a wide variety of statistical models and methods available to estimate the impact of different program experiences. One of the key distinguishing aspects of these approaches involves which of the two complicating factors described above the method attempts to overcome. For example, the lack of information regarding which control group members would have a specific program experience is analogous to a standard missing data problem and one approach to estimate impacts for these subgroups is to use missing data techniques. Alternatively, a large body of research has developed to overcome the selection problem by adopting a specific statistical model and invoking the assumptions needed to isolate the effects of the characteristics–both measured and unmeasured–of individuals who choose to have a particular set of program experiences from the effects of these experiences on outcomes. These latter approaches include instrumental variable methods and the selection correction models developed by Heckman and Lee.

Although under certain circumstances each of these approaches provides an estimate of the program impact for subgroups based on their program experiences, the specific impact being estimated differs across these various approaches. The missing data approach, in principal, compares the outcomes of applicants with specific program experiences with the subgroup of control group members who would have had those same experiences if they had been offered the opportunity to participate in the program. Hence, this approach provides an estimate of the average impact of the specific program experience for the individuals who, under the current program, choose to have these experiences.[15] The

[15] This approach is analogous to the method used to estimate the impact of the residential and non-residential components of the program that are reported in Schochet, Burghardt, and Glazerman (2000).

instrumental variable approach yields a slightly different impact estimate for program experiences. Specifically, this approach provides an estimate of the impact of the program experience for those students who came very close to having the experience but did not and, as such, is often referred to as a local area treatment effect. For example, an instrumental variable estimate of the impact of achieving a GED in Job Corps provides an estimate of the impact for students who were very close to obtaining a GED before leaving the program. Finally, the sample selection models provide yet another variant of the impact of program experiences. This approach provides an estimate of the impact of a specific program experience for an average eligible applicant to Job Corps.

While each of these alternative impact estimates is relevant to the Job Corps program and policy makers, efforts here are focused on estimating the impacts of program experiences using the missing data approach. This focus has the key advantage of providing impact estimates that are consistent with the impacts for the residential and nonresidential components of the program reported in Schochet, Burghardt, and Glazerman (2000) and the estimated impacts for center characteristics reported in Burghardt (2000).

To illustrate this approach consider a simple regression model relating an outcome (**Y**) to a specific program experience (**E**):

$$\mathbf{Y = a \times E \times T + b \times E^{*} \times C + c \times [1-E] \times T + d \times [1-E^{*}] \times C,}$$

where **T** represents eligible applicants assigned to the program group and **C** represents the eligible applicants assigned to the control group. The impact of program experience **E** among those applicants who would have this experience is given by the quantity (**a-b**) and the impact of the program for those who would not have this experience is given by the quantity (**c-d**). However, this equation can not be estimated because it is infeasible to precisely determine which control group members would have had

this program experience (i.e., $\mathbf{E}^*$ is unobserved), which is analogous to a missing data problem for this regression model.

Estimates of the quantities represented by **a**, **b**, **c**, and **d** can be obtained by replacing the missing data by a consistent estimate. In this case, $\mathbf{E}^*$ is replaced with the estimated probability each control group member would have had the specific program experience if they had been offered the opportunity to participate in the program. Specifically, the linear regression model can be rewritten as

$$\mathbf{Y} = \mathbf{a}\times\mathbf{E}\times\mathbf{T} + \mathbf{b}\times Pr(\mathbf{E}^*)\times\mathbf{C} + \mathbf{c}\times[1-\mathbf{E}]\times\mathbf{T} + \mathbf{d}\times[1-Pr(\mathbf{E}^*)]\times\mathbf{C},$$

where $Pr(\mathbf{E}^*)$ represents a consistent estimate of the probability a control group member would have program experience **E** if offered the opportunity to participate in the program. Generalized variants of this simple regression model are used to estimate the impact of different program experiences. In addition, a straightforward extension of these regression models incorporates characteristics of individuals at the time they applied to Job Corps.

To estimate the impacts of different program experiences, we use the results from the models described in Appendix B for $Pr(\mathbf{E}^*)$. Specifically, to estimate the impact for program enrollees we replace $Pr(\mathbf{E}^*)$ with the predicted probability derived from the model represented by $Pr(e \mid X, O, A)$. Similarly, when estimating the impacts for other program experiences we replace $Pr(\mathbf{E}^*)$ with an appropriate predicted probability.

B. APPROACH TO ASSESS SPECIFICATION OF STATISTICAL MODELS

The reliability of the estimated impacts for different program experiences using missing data techniques hinge critically on the availability of consistent estimates of any missing data elements and the ability of these estimates to distinguish between those who would have a program experience and those who would not based on observable characteristics. As such, the models used to derive the estimates of the likelihood eligible applicants would have different program experiences need to be subject to specification checks. This is particularly true for the models distinguishing between eligible applicants who enroll in the program and those who do not enroll as all subsequent estimates of the different program experiences depend on this model.

The statistical models for enrollment in Job Corps will be subject to two specification checks. As noted above, an intuitively appealing estimate of the impact of Job Corps for those who enroll can be obtained by assuming the program has no impact on those who choose not to enroll. If correct, this assumption provides a benchmark impact estimate that can be compared to the estimated impacts for enrollees derived from applying missing data techniques. In addition, building on the foundation of selection correction models, if this assumption holds then a selection corrected regression model relating outcomes to the characteristics of all control group members and program group members who do not enroll in Job Corps should be unrelated to an individual's program group status.

Ideally, similar assessments of the model specifications summarizing the other program experiences would also be examined. However, it is infeasible to develop similar benchmark estimates of impacts for these program experiences by imposing credible assumptions regarding the outcomes of program group members who do not have a specific program experience. For example, it is impractical to assume that the program did not have any impact on the program group members who did not complete

a Job Corps vocation. Hence, our specification checks will be limited to the model summarizing program enrollment.

C. PRELIMINARY RESULTS

Preliminary estimates of the impact of enrollment in Job Corps on average weekly earnings were derived by using the parameter estimates obtained from applying weighted maximum likelihood estimation methods to the logistic specification reported in Appendix B in conjunction with the baseline characteristics of control group members and the characteristics of their associated OA agency/counselor. The combination of the parameter estimates and the characteristics were used to construct a value for $Pr(e \mid X, O, A)$ that was used in the simple linear regression model described above where the dependent variable (**Y**) is the average earnings of individuals in the 10^{th} quarter following random assignment as reported in the 30-month interview. In addition to the program group indicator variable, control group indicator variable, arrival indicator variable for the program group, and the estimated value of $Pr(e \mid X, O, A)$ for the control group, the estimated version of the linear regression included a large number of individual characteristics measured at baseline, including age, sex, race, Job Corps region and population density of residence at time of application, educational attainment, employment and education, marital status, presence of children, welfare receipt, arrest experiences, drug use, and likely residential status.

We estimated two specifications of the linear regression model. The first specification imposed the assumption that Job Corps had no impact on the earnings of program group members who did not enroll in the program by constraining the parameters **c** and **d** to be equal. The second specification did not impose this restriction. Table D-1 presents the estimated impacts from these two specifications,

along with the estimated impacts for participants reported in Schochet, Burghardt and Glazerman (2000) overall for each of the three age groups. Specifically, the second column in the table presents the estimated impacts derived by taking the difference between the mean average earnings per week in the 10th quarter after random assignment for the program and control group and dividing this by the percentage of program group members who enrolled in Job Corps. The third column presents the corresponding estimate of this impact from the regression model (i.e., the quantity **a - b**) replacing $\mathbf{E}^{*}$ with the predicted $Pr(e \mid X, O, A)$ for all control group members, imposing the restriction that **c - d** = 0. The fourth column presents the analogous estimates of the impact of Job Corps on participants without this assumption and the fifth column presents the estimated impact of Job Corps for nonenrollees.

The preliminary results presented in Table D-1 provide mixed evidence regarding the reliability of our model-based approach to estimating impacts of Job Corps for applicants who have different program experiences. The impact estimates derived from our model based approach that imposes the same assumption used to derive the estimates in the second column are very close to the non-model based estimates overall, as well as for each age subgroup. However, relaxing this assumption yields quite different results compared to the approaches that impose this intuitively appealing assumption, particularly overall and for the 18-19 year old group. For example, the large increase in the estimated impact per participant for the 18-19 year old group and the large negative estimates of the "impact" for nonparticipants overall and for the 18-19 year old group raise questions about the reliability of the model based approach.

Exhibit D-1
Comparison of Estimated Impacts on Average Earnings per Week in 10th Quarter Following Random Assignment for Job Corps Participants

Applicant Group	Estimated Impact Per Participant Reported in Schochet et al (2000)	Model Estimated Impact for Participants Assuming zero impact on nonenrollees	Model Estimated Impact for Participants Without imposing zero impact assumption	Model Estimated Impact for Nonenrollees
All	$ 17.70	$ 19.97	$ 25.60	- $ 20.02
16-17 years old at application	$ 26.00	$ 22.57	$ 20.03	$ 12.24
18-19 years old at application	- $ 2.40	$ 5.29	$ 16.43	- $ 31.04
20-24 years old at application	$ 26.20	$ 29.29	$ 30.10	- $ 2.13

The preliminary findings presented in Table D-1 provide one type of specification check for our model based approach to estimating impact estimates for applicants with different program experiences. In addition, we also examined a specification check that is based on the conceptual framework underlying selection correction models. Specifically, we regressed average earnings per week during the 10th quarter after application on an indicator variable for program group members who did not enroll in the program, the same set of covariates described above, and the conditional mean sample selection adjustment factor for program group nonparticipants using a sample of all control group members and program group members who did not enroll in Job Corps. Under the conditions that our model adequately accounts for the difference in nonparticipants and a random subset of all eligible applicants, the earnings of the nonparticipant program group members should not be significantly different from the earnings of all control group members. Although not reported here, preliminary results from this specification check also provide mixed evidence regarding the reliability of our statistical models. The indicator variable for program group nonparticipants was statistically insignificant overall and for both

the 16-17 and 18-19 year old subgroups. In contrast, the preliminary results suggest that the program group nonparticipants in the 20-24 year old range at application are significantly different from all control group members with the selection correction adjustment. Unfortunately, the model that appears best from our first specification check appears to be the most questionable under our second specification check.

As all subsequent model-based estimates of the impacts of different program experiences depend on the reliability of the models summarizing enrollment in Job Corp, the mixed results from our specification checks suggest caution should be exercised in estimating and reporting the results for other program experiences. Hence, no additional results were available to report at this time.

D. ESTIMATION OF IMPACTS OF PROGRAM EXPERIENCES AT 48 MONTHS AFTER APPLICATION

The preliminary results described above are based on survey information collected at 30 months after random assignment. While this time frame provides sufficient time for the program group to enroll in Job Corps, it does not necessarily provide ample time to measure the post-program experiences of participants who have specific program experiences. For example, the post-program experiences of participants who are enrolled in Job Corps at least 270 days are obviously more limited than those who do not enroll or are enrolled for less than 30 days. As suggested by the mixed evidence reported above, a longer post-program period is needed to adequately assess our model based specifications.

We will more fully examine our model based specifications and, if this assessment suggests these models are appropriate, we will estimate the impact of the program experiences listed above using information up through 48 months after application. Specifically, we will assess the specification of our

models summarizing enrollment using both of the checks described above in Section D.2 using information from the longer post-program period. If we judge these models to be reliable, we will estimate the impact of participation in vocational program areas, completion of a vocation, attainment of a GED, and different lengths of stay in the program using the empirical methods described above.